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THE NEOTROPIC DIPLAZONTINAE
(Hymenoptera, Ichneumonidae)

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INTRODUCTION

The Diplazontinae is a subfamily of parasitic wasps of the family Ichneumonidae. They are chiefly parasites of the dipterous family Syrphidae, although they are reported as bred occasionally from lepidopterous and coleopterous hosts.

This study deals with the subfamily as it occurs from the United States-Mexican border to Tierra del Fuego of southern Chile. Within this extensive area, the species are found primarily at higher elevations or at the more Temperate latitudes of southern South America. The diplazontines of the Neotropical Region are very poorly known. This paper is not intended as an exhaustive treatise of the species, but rather as a foundation for future work when more extensive collections for the area become available. The fauna, as detailed here, includes 5 genera and 52 species. Ten of these species also occur in the Nearctic Region.

The specimens examined are in the collections of the California Academy of Sciences (San Francisco, Calif.), Canadian National Collection (Ottawa, Canada), Cornell University (Ithaca, N. Y.), R. R. Dreisbach (Midland, Mich.), Harvard University (Cambridge, Mass.), H. K. Townes (Ann Arbor, Mich.), University of California (Albany, Calif.), and U. S. National Museum (Washington, D. C.).

The anatomical terminology used in the paper is largely that of L. Smith and R. Shenefelt (1956. *Trans. Wisconsin Acad. Sci., Arts, Lett.* 44:165-219). In the measurements for new species, the holotypic measurement is first given, followed by the range of paratypic measurements, where these differ appreciably. The width of the face is taken at the narrowest point below the antennal fossae. The height of the face is taken from the lower margin of the antennal fossae to the tentorial pits. The hind ocellar-occipital carinal line (abbreviated OOC) is the shortest distance from the posterior margin of a hind ocellus to the occipital carina. The diameter of a hind ocellus (abbreviated HO) is the widest diameter of a hind ocellus. The width of the petiole is the greatest width posterior to the spiracle; the length is taken from the base to the posterior end of the medial region of the segment.

The Diplazontinae are distinguishable from other Ichneumonidae by the following characteristics:

Length 4-12 mm.; head width 1.2-1.4x height; clypeus transverse, usually lobed apically, distinct from face laterad of tentorial pits; mandible short and stout, tridentate, the normal upper tooth being broadly subtruncate or bifid;

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antenna filiform; flagellum 15-25 segmented; males often bearing tyloids on flagellum; scape short, diagonally excised externally; epomia weakly developed; notaulus present or lacking; prepectal carina usually complete; sternaulus shallow; propodeum often carinate; wing areolet present or lacking, when present usually triangular; legs slender; two trochanters per leg; tibial spurs 1:2:2; tarsal claws simple; abdomen sessile; abdominal segments 1-3 depressed, variably compressed posteriorly; petiole deplanate, lateral margins subparallel, its spiracles projecting and before the middle, a pair of dorsal longitudinal carinae frequently present; petiolar sternum small, separated; exerted portion of ovipositor short and slender. See figures 65-69 for the general habitus of the subfamily.

The study was made in the Museum of Zoology of the University of Michigan with the aid of a grant from the National Science Foundation. Special thanks are due Dr. Henry K. Townes for his assistance in the preparation of this report. Figures 65-69, showing the genotypes, were prepared by Kakuzo Yamazaki and are republished from Dasch's Ichneumon-flies of America North of Mexico: 5. Subfamily Diplazontinae (1964: Mem. Amer. Ent. Inst. 3).

In addition to the species treated below, *Tymmophorus graculus* Grav. was recorded as Mexican by Gibson and Carillo (1959. Lista de insectos en la colleccion entomologica de la oficina de estudios especiales, S. A. G., p. 12). The present author has not seen this species from the Neotropic Region, so has not included it. A description of *T. graculus* may be found in Dasch, 1964, Mem. Amer. Ent. Inst. 3:76.

Key to the Genera of Neotropic Diplazontinae

1. Notaulus strongly defined on anterior mesoscutum as a distinct groove; areolet absent 2
 Notaulus absent or indicated as a rugose area; areolet present or absent 3
2. Spiracle of third abdominal segment dorsad of lateral suture; tyloids lacking from male antenna; face shagreened; terga of anterior abdominal segments usually with a transverse postmedian impression.
 1. Diplazon (p. 3)
 Spiracle of third abdominal segment ventrad of lateral suture; tyloids present on male antenna; face polished; terga of abdominal segments without a transverse impression 4. Promethes (p. 54)
3. Spiracle of second abdominal segment ventrad of lateral suture; face usually polished and bearing a pair of vertical depressions between clypeus and antennal fossae; propodeum usually carinate 5. Sussaba (p. 55)
 Spiracle of second abdominal segment dorsad of lateral suture; face usually shagreened and lacking vertical depressions; propodeum usually not carinate 4
4. Clypeus usually apically lobed and often impressed along apical margin; areolet usually present; tyloids present on male antenna (except in *preclarus*); head, thorax, and abdomen variously sculptured
 2. Homotropus (p. 19)

Clypeus truncate apically with a median vertical sulcus; areolet lacking; tyloids lacking from male antenna; head, thorax, and abdomen evenly shagreened and usually weakly punctate, or impunctate.

3. Syrphoctonus (p. 46)

I. Genus DIPLAZON

(Figure 69)

Bassus of authors, not of the genotype.

Diplazon Nees, 1818. Nov. Acta Acad. Nat. Curios 9:292. Type: *Ichneumon laetatorius* Fabricius. Designated by Viereck, 1914.

Length 4.1-9.4 mm.; head transverse, width 1.1-1.4x height; face width 1.65-2.3x height, usually shagreened and lightly punctate, occasionally more polished; clypeus width 1.7-2.3x height, apically lobed, shagreened, surface flattened, separated from face by a definite suture, basal margin somewhat elevated above level of face; 15-21, but usually 16 or 17 flagellar segments; antenna usually much shorter than wing length, segments progressively shortened from basal to apical segment; sense cones of flagellum usually separated by more than the width of a sense cone; length of first flagellar segment 2.7-5.2x greatest diameter; occipital carina usually narrowly rounded or somewhat angulate medially; malar space 0.3-0.7x basal width of mandible; female of most species with pale inner orbital bars; thorax length 1.6-2.1x mesonotal width, usually polished and punctate, more seldom shagreened; notaulus strongly impressed on basal 0.20-0.25 of mesoscutum; prepectal carina complete except in *pectoratorius*; sternaulus shallow; propodeum usually strongly carinate, but weakly carinate in several species; wing lacking areolet; nervulus opposite basal vein except in *anolcus*; nervellus broken below middle except in *implanus*; 2 or 3, exceptionally 4 or 5 hamuli on costellan fold; hind tibia slightly shorter than thorax length; inner spur on hind tibia 0.35-0.6x length of hind basitarsus; hind tibia usually lacking setae on external surface; hind tibia black and white banded; abdomen rounded dorsally and tapered apically, only occasionally compressed in the female; caudal margin of each tergum transverse or slightly convex; petiole in dorsal view varying from almost quadrate to rectangular, length 1.0-1.9x width, usually bearing a pair of dorsal carinae; second and third segments wider than long; epipleura distinct on segments 2, 3, and occasionally base of 4; spiracles dorsad of lateral sutures in terga; length of abdomen 0.95-1.4x combined lengths of hind femur and tibia; transverse impressions nearly always present on all or several of segments 1-4.

Twelve species from the region are included in *Diplazon*. Of these, *laetatorius* is cosmopolitan, *pectoratorius* has a Holarctic distribution, *orbitalis* and *scutellaris* occur in the Nearctic region, and 8 species are newly described here.

Key to the Neotropic species of DiplazonFemales(Females of *pullatus* and *triangulus* are unknown.)

1. Mesopleurum marked with rufous 2
 Mesopleurum black 7
2. Hind tibia black at apex, white on remainder; hind basitarsus white on basal half, black on apical half; petiole and propodeum weakly or not carinate; transverse impressions weak or absent on abdominal segments 3-4.
 11. pectoratorius Thunberg
 Hind tibia black or rufous at base and apex, white on medial annulus; hind basitarsus usually concolorous, dark brown or black, except in *mulleolus*; petiole and propodeum usually strongly carinate; transverse impressions weak or strong on abdominal segments 3-4 3
3. Mesoscutum rufous; hind coxa and femur variously colored, but not rufous. 4
 Mesoscutum black; hind coxa and femur rufous 5
4. Hind coxa and femur mostly blackened; abdomen rounded above, gradually narrowed apically; transverse impressions strong on abdominal segments 3 and 4; abdomen extensively punctate. 7. rufoscutatus, new species
 Hind coxa cream; hind femur fuscous at base and apex, tawny medially; abdomen strongly compressed from segment 5 to apex; transverse impressions lacking on abdominal segments 3 and 4; abdomen shagreened on basal segments and polished apically. 12. mulleolus, new species
5. Abdomen elongated and somewhat compressed; abdominal tergites with weak transverse impressions, finely striate before the transverse impressions; hind tibia rufous at base and apex; abdomen spotted with cream at basal corners of segments 4-7 10. prolatus, new species
 Abdomen not elongated, broadened at middle, then progressively narrowed to apex; abdominal tergites 1-3 or 4 with deep transverse impressions, coarsely striate or shagreened-punctate before the impressions; hind tibia black at base and apex; abdomen spotted or banded on apical margins of terga 6
6. Abdominal tergites 2 and 3 shagreened-punctate before transverse impressions; flagellum rufous 5. scutellaris Cresson
 Abdominal tergites 2 and 3 deeply striate before transverse impressions; flagellum black 6. implanus, new species
7. Transverse impressions of abdomen nearly lacking; dorsal carinae lacking from petiole; hind coxa and femur largely blackened.
 9. anolcus, new species
 Transverse impressions of abdomen well developed; dorsal carinae strong on petiole; hind coxa and femur rufous. 8
8. Abdominal terga shagreened and impunctate before transverse impressions; mesoscutum very finely punctate; face shagreened and impunctate.
 4. erugatus, new species

- Abdominal terga usually polished and punctate or somewhat rugulose before transverse impressions; mesoscutum coarsely punctate; face shagreened and punctate 9
9. Abdominal terga 2-4 entirely or partially rufous; hind tibia tricolored, with rufous at apex; mesosternal suture deep; orbital bar less than height of eye; humeral bar not recurved 1. laetatorius Fabricius
Abdominal terga black, spotted or banded with cream or rufous behind transverse impressions; hind tibia bicolored, usually black at apex; mesosternal suture shallow; orbital bar extending from top of eye into malar space; humeral bar usually recurved. 2. orbitalis Cresson

Males

(Males of *implanus* and *erugatus* are unknown.)

1. Mesopleurum and often mesosternum largely rufous or cream-yellow. 2
Mesopleurum and mesosternum black, usually with a few yellow markings, occasionally a narrow longitudinal stripe on mesopleurum 6
2. Hind tibia black at apex, white on remainder; hind basitarsus white on basal half; petiole and propodeum weakly or not carinate; transverse impressions weak or absent on abdominal segments 3-4.
11. pectoratorius Thunberg
Hind tibia black or rufous at base and apex, white on medial annulus; hind basitarsus concolorous, dark brown or black, except in *mulleolus*; petiole and propodeum usually carinate; transverse impressions weak or strong on abdominal segments 3-4 3
3. Mesoscutum rufous; hind coxa and femur variously colored, but not rufous. 4
Mesoscutum black; hind coxa and femur rufous. 5
4. Hind coxa and femur mostly blackened; abdomen heavily punctate; petiole length 1.25x width. 7. rufoscutatus, new species
Hind coxa cream; hind femur fuscous at base and apex, tawny medially; abdomen shagreened, polished apically; petiole length 1.6-1.8x width.
12. mulleolus, new species
5. Abdominal terga 2 and 3 scabro-punctate before their transverse impressions; face yellow; abdomen banded or spotted with yellow behind transverse impressions. 6. scutellaris Cresson
Abdominal terga 2 and 3 finely striate before their rather shallow transverse impressions; face with wedge-shaped yellow orbital bars; abdomen black. 10. prolatus, new species
6. Transverse impressions of abdomen nearly lacking; dorsal carinae lacking from petiole; petiole length 1.9-2.0x width; propodeal carinae largely lacking 9. anolcus, new species
Transverse impressions of abdomen well developed; dorsal carinae strong on petiole; petiole length 1.1-1.6x width; propodeal carinae usually well developed 7

7. Hind coxa largely blackened; prepectus and mesopleurum black; transverse impressions of abdomen usually shallow; upper tooth of mandible truncate 8. pullatus, new species
Hind coxa rufous; prepectus cream or yellow, mesopleurum usually marked with cream or yellow; transverse impressions of abdomen usually well developed; upper tooth of mandible shallowly to deeply concave . . . 8
8. Mesoscutum polished and nearly impunctate. 3. triangulus, new species
Mesoscutum polished and deeply punctate 9
9. Abdominal terga 2-4 entirely or partially rufous; hind tibia tricolored, with rufous at apex; mesosternal suture deep; humeral bar not recurved.
1. laetatorius Fabricius
Abdominal terga black, spotted or banded with cream or rufous behind their transverse impressions; hind tibia bicolored, usually black at apex; mesosternal suture shallow; humeral bar usually recurved.
2. orbitalis Cresson

1. Diplazon laetatorius Fabricius

(Figures 1, 53, and 69)

- Ichneumon laetatorius* Fabricius, 1781. Spec. Insect. 1:424. [♀]. Type: ♀, Germany (lost).
- Ichneumon dichrous* Schrank, 1781. Enum. Insect. Austr., p. 352. "♂"=♀. Type: ♀, Austria (lost).
- Ichneumon lituratorius* Schrank, 1802. Fauna Boica 2:287. ♀. Type: ♀, Germany (lost).
- Anomalon attractus* Say, 1826. Boston Jour. Nat. Hist. 1:241. ♀. Type: ♀, Indiana (destroyed). Neotype: ♀, Dallas, Texas (Washington), designated by Cushman and Gahan, 1921.
- Bassus albovarius* Wollaston, 1858. Ann. Mag. Nat. Hist., ser. 3, 1:23. ♂. Type: ♂, Madeira (London?).
- Bassus cinctipes* Holmgren, 1868. Kongl. Sven. Fregat. Eugenies Resa 2:409. ♀. Type: ♀, Cape of Good Hope (Stockholm?).
- Bassus sycophanta* Cresson, 1868. Trans. Amer. Ent. Soc. 2:112. ♂, ♀. Types: ♂, ♀, Connecticut, New York, Pennsylvania, Delaware, Illinois (lost).
- Bassus tripicticrus* Walsh, 1873. Trans. Acad. Sci. St. Louis 3:85. ♂, ♀. Types: ♂, ♀, ?Illinois (destroyed).
- Scolobates varipes* Smith, 1878. Trans. Ent. Soc. London 1878:3. ♀. Type: ♀, New Zealand (London).
- Bassus venustus* Saussure, 1890. In Grandidier: Hist. Phys., Nat. Politique de Madagascar, 20 (Hyménoptères), part 1, pl. 15, fig. 23. Type: ♀, Madagascar (Paris?).
- Bassus laetatorius* var. *terminalis* Davis, 1895. Trans. Amer. Ent. Soc. 22:19. ♀. Type: ♀, Washington (Philadelphia).
- Bassus balearicus* Kriechbaumer, 1895. Ann. Soc. Españ. Hist. Nat. 23:246. ♀. Type: ♀, Mallorca Island (location of type unknown).
- Bassus generosus* Cameron, 1898. Mem. & Proc. Manchester Lit. Phil. Soc. 42:31. ♀. Type: ♀, Greymouth, New Zealand (London).

Bassus laetatorius ikiti Cheesman, 1936. Trans. Roy. Ent. Soc. London 85: 182. ♀. Type: ♀, New Hebrides Islands (London).
 Biology: Cook, 1891. Ann. Rpt. Mich. Agr. Exp. Sta. 4:132. - Metcalf, 1913. Ohio Biol. Surv. Vol. 1, Bul. 1:50. - Moore, 1913. Agr. Jour. South Africa 6:490, fig. 11. - Kelly, 1914. Jour. Econ. Ent. 7:294. - Houser, Guyton, & Lowry, 1917. Bul. Ohio Agr. Exp. Sta. 317:80. - Voukassovitch, 1925. Bul. Soc. Ent. France 1925:171. - Kamal, 1926. Jour. Econ. Ent. 19:724, 727. - Cushman, 1926. Proc. Ent. Soc. Wash. 28:44. - Heiss, 1938. Ill. Biol. Monog. 36, no. 1:19, 99, 100. - Scott, 1939. Ann. Appl. Biol. 26:521, 522, 525; pl. 30, fig. 1. - Kamal, 1939. Tech. Scient. Bul. Min. Agr. Egypt 207:12-13, 26-31, 46-47, 50-51, 55; fig. 38-47, 92. - Beirne, 1941. Trans. Soc. Brit. Ent. 7:159. - Weems, 1954. Ohio Jour. Sci. 54:45-54. - Butler & Dasch, 1958. Arizona Agr. Exp. Sta. Tech. Bul. 135:5-7.

Female: 4.2-6.7 mm.; head polished, lightly shagreened on face, deeply punctate on face and frons, more finely on gena; OOC 1.4-1.5x HO; face width 1.9x height; clypeus width 1.8-2.2x height, apical lobes weakly rounded with a moderate median emargination, polished; malar space 0.4-0.6x basal width of mandible; upper tooth of mandible strongly bidentate; 15-17 flagellar segments; flagellum covered with short inclined hairs; thorax polished, deeply punctate except on speculum; mesosternal suture broad and rather deep; pleural carina strong; propodeum with strong dorsal, petiolar and lateral carinae, basal and lateral areas polished and punctate, petiolar area bearing strong V-shaped carinae and dendritic carinulae; 2-3 hamuli on costellan fold; legs stout; coxae and femora polished and obscurely punctate; abdomen stout, rounded dorsally, progressively narrowed from base of segment 4; petiole quadrate, length 1.0-1.1x width, margins slightly divergent behind spiracles, polished and deeply punctate, a pair of strong carinae arising at base, converging to middle, then parallel to deep transverse impression at apical 0.25; transverse impression crossed by numerous short longitudinal carinulae; segment 2 slightly wider than long, a deep transverse impression at apical 0.3, deeply and closely punctate before and more sparsely punctate behind impression; segment 3 with deep transverse impression behind middle and on segment 4 at middle, both deeply and closely punctate before and more smooth behind impression; rest of abdomen polished and obscurely punctate; epipleura distinct on segments 2 and 3, sharply inflexed.

Black. Yellow on clypeus, mandible, palpi, inner orbital bar; flagellum rufous; yellow on humeral bar, tegula, scutellum, postscutellum, tip of pronotal lobe, spot under each wing; wings dusky; legs largely rufous; hind tibia black at base, then successively white banded, black banded, and rufous banded at apex; black on hind tarsus; fore coxa often somewhat dusky; rufous on all or part of petiole, usually all of segments 2 and 3, and base or all of 4; rufous ventrally on segments 1-3.

Male: 4.5-5.7 mm.; face width 2.0-2.1x height; 16-18 flagellar segments; hairs on flagellum short and inclined dorsally, erect ventrally; petiole length 1.1-1.2x width; abdomen more pubescent than in female.

Black. Yellow on clypeus, mandible, palpi, face, malar space, inner orbit, scape and pedicel ventrally; rufous ventrally on flagellum; thorax as in female, but with yellow on most of proepisternum, prepectus, and a spot along sternaulus; legs paler than in female, yellow on fore and middle coxae, all trochanters, and anteriorly on fore femur and tibia; abdomen colored as in female, rufous usually on segments 2-4.

D. laetatorius may be distinguished usually by the tricolored hind tibia, the rufous coxae, the shiny and deeply punctate thorax and abdomen, the strong transverse impressions of segments 1-4, the strongly carinate propodeum and petiole, and the usually rufous median abdominal segments.

Specimens: 4♀, La Rioja, Argentina, E. Giacomelli (Ithaca). 2♀, Potrerillos, Argentina (Ithaca). ♀, Aconcagua, 5 miles north of Concon, Chile, Dec. 16, 1950, Ross & Michelbacher (San Francisco). 7♀, Angol, Chile, Dec. 31, 1950, and Jan. 1, 1951, Ross & Michelbacher (San Francisco). ♀, Angol, Chile, Nov. 27, 1957, F. Ballejas (Dreisbach). ♀, Bio Bio, 5 km. west of Tucapel, Chile, Dec. 28, 1950, Ross & Michelbacher (San Francisco). 4♀, 20 km. north of Concon, Valparaiso Province, Chile, Nov. 26, 1950, Ross & Michelbacher (San Francisco). ♀, La Balsa, 850 m., Cordillera Parral, Linares, Chile, Feb. 25-27, 1956, L. Peña (Ottawa). ♀, Los Maitenes, Santiago, Chile, Oct. 18, 1954, L. Peña (Ottawa). ♀, Mamina, Chile, Sept. 15, 1951, L. Peña (Ottawa). ♀, Parca, Chile (Davis). ♀, Aguascalientes, Mexico, June 26, 1952, E. Gilbert & C. MacNeil (Albany, Calif.). ♀, Cuernavaca, Morelos, Mexico, 5,500 ft., March 3, 1959, H. & M. Evans and D. Anderson (Ithaca). ♀, 10 miles north of Cuernavaca, Morelos, Mexico, 5,000 ft., July 13, 1959, H. Evans (Ithaca). ♀, Guadalajara, Jalisco, Mexico, 5,000 ft., July 13, 1959, H. Evans (Ithaca). ♀, Puebla, Mexico, July 3, 1952, E. Gilbert & C. MacNeil (Albany, Calif.). 2♀, Arequipa, Peru (Washington). 4♀, Callao, Peru, Nov. 16 and 17, 1950, Michelbacher & Ross (San Francisco). ♀, Chosica, Peru (Ithaca).

D. laetatorius has a cosmopolitan distribution.

2. Diplazon orbitalis Cresson

(Figure 2)

Bassus orbitalis Cresson, 1865. Proc. Ent. Soc. Phila. 4:272. ♀. Type: ♀, Colorado (Philadelphia).

Bassus cinctulus Cresson, 1878. Proc. Acad. Nat. Sci. Phila. 1878:357. ♂. Type: ♂, California (Philadelphia).

Biology: Kamal, 1926. Jour. Econ. Ent. 19:725, 728. - Kamal, 1939. Tech. Scient. Serv. Bul. Min. of Agr. Egypt 207:31, 46-47; fig. 48-53, 94. - Butler & Dasch, 1958. Arizona Agr. Exp. Sta. Tech. Bul. 135:6-7.

Female: 6.4-7.8 mm.; head shagreened on face, more polished on frons, vertex and gena, all finely punctate; OOC 1.0-1.5x HO; clypeus width 1.8-2.2x height, the apical lobes weakly rounded with a moderate median emargination, polished; malar space 0.5x basal width of mandible; upper tooth of mandible deeply bidentate; 16-17 flagellar segments; thorax polished, deeply and closely punctate, less so on speculum; mesosternal suture shallow; pleural carina low; propodeum with strong dorsal, petiolar, and lateral carinae, basal area polished and punctate, lateral area more rugulose, petiolar area rugulose but more polished ventrally; 3-4 hamuli on costellan fold; coxae and femora polished and obscurely punctate; numerous setae on external face of hind tibia; abdomen stout, rounded dorsally, progressively narrowed from base of segment 4 to apex of abdomen; petiole quadrate, length 1.1-1.3x width, margins slightly divergent behind spiracles, rugulose, a pair of strong carinae arising at base, converging to deep transverse impression at apical 0.2; segment 2 distinctly wider than long, a deep transverse impression at apical 0.3, polished, deeply and closely punctate before impression, less so behind; seg-

ment 3 with deep impression behind middle, sculptured like 2; segment 4 with distinct impression at middle, deeply punctate before, impunctate behind; remainder of abdomen polished and obscurely punctate; epipleura distinct on segments 2, 3, and base of 4, sharply inflexed.

Black. Cream-yellow on clypeus, mandible, palpi, inner orbit extending onto vertex and malar space, often a median facial spot, humeral bar often recurved onto mesoscutum for $0.6\pm$ of its length, tegula, scutellum, postscutellum, tip of proepisternum, prepectus, tip of pronotal lobe, spot below sternaulus, mesepimeron, subtegular ridge; legs largely rufous, cream-yellow on fore coxa, apically on middle coxa, fore and middle trochanters, anteriorly on fore femur and tibia; white medial band on hind tibia, black at base and apex and on hind tarsus; cream behind transverse impressions of segments 1-3, sometimes 4, and basal corners of 4 and 5.

The coloring is exceedingly variable. Some of the patterns that occur include: orbital bar reduced; prepectus yellow ventrally; recurved humeral bar interrupted or lacking; rufous or black behind transverse impressions on terga, and white spotted on posterior corners of segments 2-4; face in part or completely cream-yellow.

Male: 5.0-6.4 mm.; face width 1.8-1.9x height; clypeus width 2.2-2.3x height; 16-18 flagellar segments; flagellum covered with a short pile; petiole length 1.4-1.5x width.

Black. Similar to female but yellow on all of face, scape and pedicel ventrally, and more of mesosternum; legs paler, with cream on all of fore and middle coxae, apex of hind coxa, and all trochanters; rufous behind transverse impressions of segments 2-4 and apical margins of 5-7; yellow spotted at basal corners of segments 4 and 5, apically on petiole and posterior corners of 2-4.

The male is also quite variable. Specimens often lack the recurved portion of the humeral bar; the paler abdominal markings may be reduced; the rufous of the abdomen sometimes covers all of segments 3 and 4; and occasional specimens are cream banded behind the transverse impressions of segments 1-4.

Specimens: ♀, Cuernavaca, Morelos, Mexico, at 5,500 ft., May 25, 1959, H. Evans (Ithaca). 11♂, Distrito Federal, Mexico, Oct. 11, 1962, H. & M. Townes (Townes). ♂, 15-20 miles west of Jiquilpan, Jalisco, Mexico, Nov. 30, 1948, H. Leech (San Francisco). 4♀, Michoacan between San Juan Par. and Zirosto, Mexico, June 23, 1947, T. Hubbell (Ann Arbor). ♀, Nombre de Dios, Durango, Mexico, July 13, 1954, E. Schlinger (Albany, Calif.). ♀, near Puebla, Mexico, Oct. 15, 1962, H. Townes (Townes). ♂, Rio Frio, 55.5 km. west of Mexico City, Mexico, Oct. 24, 1962, H. & M. Townes (Townes). ♀, San Cristobal de las Casas, Chiapas, Mexico, at 7,500 ft., April 29, 1959, H. Evans (Ithaca). 3♀, 4♂, San Pedro Iturbide, $32\pm$ km. west of Linares, Mexico, Oct. 5, 6, and 26, 1962, H. & M. Townes (Townes). ♂, Tuxpan, Mexico, at 6,000 ft., July 6, 1959, H. Evans (Ithaca). ♀, Zimapan, Hidalgo, Mexico, June 11-14, 1951, P. Hurd (Albany, Calif.).

Diplazon orbitalis occurs in Mexico, and in the Canadian and Upper Austral zones of the Nearctic region, west of 100° W. longitude.

3. Diplazon triangulus, new species

(Figure 3)

Female: Unknown.

Male: 4.6 mm. (3.8 mm.); head polished, lightly shagreened on face and malar space, obscurely punctate on face and gena; gena not inflated; vertex strongly impressed medially; occipital carina rounded medially; OOC 1.5x HO; face width 2.1x (1.9x) height, parallel margined; clypeus width 2.1x (2.0x) height, apical lobes rounded with a shallow median emargination, slightly up-curved at apical margin, polished; malar space 0.5x (0.6x) basal width of mandible; upper tooth of mandible shallowly concave; 17 (16) flagellar segments; thorax polished and obscurely punctate except on speculum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum bearing moderately developed dorsal, lateral, and petiolar carinae, weakly roughened on basal area, and with carinulae on petiolar area; 4 hamuli on costellan fold; legs slender; coxae and femora polished; abdomen rounded dorsally, slightly narrowed apically; petiole short rectangular, length 1.5x (1.4x) width, margins slightly convergent behind spiracles, a pair of weak carinae arising at base and fading out near middle, a weak transverse impression at apical 0.2, polished between and coarsely punctate laterad of longitudinal carinae; segment 2 slightly wider than long, a deep impression at apical 0.3, thyridia large and polished, coarsely pitted before impression and polished behind; segment 3 with deep impression at apical 0.4, sculptured as in segment 2; segment 4 with a moderate impression near middle, sculptured as in segment 2; remainder of abdomen mostly polished; pubescence abundant on abdomen; epipleura distinct on segments 2 and 3, inflexed.

Black. Cream-yellow on face, inner orbit, malar space, lower 0.2 of gena, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, 2 elongated spots on mesoscutum, scutellum, postscutellum, most of proepisternum, tip of pronotal lobe, prepectus, anterior mesosternum, longitudinal triangular area on lower mesopleurum (enclosing a black central spot), subtegmental ridge, mesepimeron; legs mostly rufous; cream on fore and middle coxae, all trochanters, anteriorly on fore and middle femora and tibiae; white annulus on central 0.4± of hind tibia; dusky rufous at base and apex of hind tibia, all of hind tarsus; cream-yellow apical spots on segments 2-5, and apical margins of segments 6 and 7. The face may have 2 black bands from clypeus to antennal fossae; the yellow on the middle of the mesoscutum may be lacking and the scutellum yellow only at the apex; and the yellow of the mesopleurum may be limited to a longitudinal stripe.

This species differs from *orbitalis* by its smaller size, the largely polished mesoscutum and mesopleurum, and the coloration of the abdomen. It differs from *erugatus* in the punctation of the abdominal segments and the color of the hind tibia and tarsus.

Type: ♂, 15-20 miles west of Jiquilpan, Jalisco, Mexico, Nov. 30, 1948, H. B. Leech (San Francisco).

Paratypes: ♂, same data as type (San Francisco). ♂, San Cristobal de las Casas, Chiapas, Mexico, at 7,500 ft., May 2, 1959, H. Evans (Ithaca).

4. Diplazon erugatus, new species

(Figure 4)

Female: 4.3 mm. (5.2 mm.); head shagreened, more polished on frons and vertex, obscurely punctate on gena; gena not inflated; vertex shallowly impressed medially; occipital carina rounded medially; OOC 1.4x HO; face width 2.1x (2.0x) height, slightly narrowed ventrally; clypeus width 2.1x height, apical lobes angularly rounded with a moderate median emargination, slightly up-curved at apical margin, polished; malar space 0.6x (0.7x) basal width of mandible; upper tooth of mandible shallowly concave; 17 (16) flagellar segments; thorax polished, obscurely punctate except on speculum; notaulus deep on basal 0.25 of mesoscutum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum bearing strong dorsal, lateral, and petiolar carinae, basal area weakly wrinkled, petiolar area polished with a few weak median carinulae; 3 hamuli on costellan fold; legs slender, coxae polished, femora lightly shagreened, obscurely punctate; abdomen rounded dorsally, gradually compressed from base of segment 4 to apex of abdomen; petiole quadrate, length 1.1x width, margins weakly divergent behind spiracles, a pair of weak carinae arising at basal corners, convergent to middle and then become obsolete, a deep transverse impression at apical 0.25, a series of longitudinal carinulae in impression, shagreened-rugulose before impression and polished behind; segment 2 wider than long, shagreened before transverse impression at apical 0.3, polished behind; segment 3 with an impression at apical 0.4, sculptured as in 3; segment 4 with an impression near middle, shagreened before impression; remainder of abdomen polished; epipleura distinct on segments 2, 3, and base of 4, inflexed.

Black. Cream on inner orbit, malar space, middle of face (or this lacking), clypeus, mandible, palpi, humeral bar, tegula, scutellum (or apex), postscutellum, base of wings, tip of pronotal lobe, tip of proepisternum, subtegular ridge, mesepimeron; legs largely rufous; cream on fore and middle coxae and all trochanters; white annulus on middle 0.4± of hind tibia; fuscous at base and apex of hind tibia and on hind tarsus; cream spots at basal corners of abdominal segment 4, apical corners of segments 2 and 3, and spiracles on segments 1-3. The cream on the abdominal spiracles and apical corners may be reduced or lacking.

Male: Unknown.

This species may be distinguished by the extensively polished thorax and the even shagreening of the anterior abdominal segments. It is most closely related to *triangulus*.

Type: ♀, San Pedro Iturbide, 32± km. west of Linares, Nuevo Leon, Mexico, Oct. 26, 1962, H. & M. Townes (Townes).

Paratypes: 3♀, San Pedro Iturbide, 32± km. west of Linares, Nuevo Leon, Mexico, Oct. 5 and 6, 1962, H. & M. Townes (Townes). ♀, San Cristobal, 6 miles southeast of Chiapas, Mexico, March 31, 1953, R. Bechtel and E. Schlinger (Albany, Calif.).

5. Diplazon scutellaris Cresson

(Figure 5)

Bassus scutellaris Cresson, 1868. Trans. Amer. Ent. Soc. 2:112. ♀. Type: ♀, Illinois (Philadelphia).

Female: 6.3-7.0 mm.; head shagreened on face and malar space, polished on frons and gena, all finely punctate; OOC 1.0-1.1x HO; face width 1.7-1.8x height, parallel margined; clypeus width 1.75-2.2x height, apical lobes truncate, meeting each other at a slight angle medially, lightly shagreened; malar space 0.3-0.4x basal width of mandible; upper tooth of mandible shallowly bidentate; 15-17 flagellar segments; sense cones abundant, closer together than the width of a cone, conspicuous; thorax polished, deeply and closely punctate on mesoscutum, more obscurely punctate on rest of pleura and sternum, smooth on speculum; mesosternal suture shallow; pleural carina low; propodeum bearing strong dorsal, petiolar, and lateral carinae, basal areas polished and finely punctate, petiolar area covered with dendritic carinulae arising on median line; 2-4 hamuli on costellan fold; legs stout; coxae and femora polished and obscurely punctate; abdomen broad, rounded dorsally, progressively narrowed from base of segment 3; petiole quadrate, length 1.1-1.2x width, margins slightly divergent behind spiracles, rugulose, a pair of strong submedian carinae arising at base and converging to a deep transverse impression at apical 0.2; segment 2 distinctly wider than long, a deep impression at apical 0.3, scabro-rugulose before impression, polished behind; segment 3 with impression behind middle, sculptured as in segment 2; segment 4 with distinct impression at middle, polished and finely punctate before, polished behind; rest of abdomen polished; epipleura distinct on segments 2, 3, and base of 4, inflexed.

Black. Cream on clypeus, mandible, palpi, inner orbital bar, and median facial spot; rufous on flagellum; cream on humeral bar, tegula, scutellum, postscutellum, tip of pronotal lobe, spot under each wing, usually 2 submedian spots on mesoscutum; rufous on lower 0.6± of mesopleurum, prepectus, mesosternum, metapleurum, and propodeum laterad of spiracle; legs largely rufous, more cream on fore coxa and trochanters, and apices of fore and middle femora; white median band on hind tibia; black at apex of hind femur, base and apex of hind tibia, and hind tarsus; cream medially on apical margin of petiole; spots at apical corners of segments 2 and 3 and apical margins of all segments.

Male: 5.0-6.1 mm.; OOC 0.8-1.0x HO; face width 1.6-1.9x height; clypeus width 2.1x height; 16-18 flagellar segments; flagellum covered with short erect hairs ventrally, inclined dorsally; petiole length 1.3-1.5x width.

Black. Cream on clypeus, mandible, palpi, face, malar space, inner orbit, scape and pedicel ventrally; tawny ventrally on flagellum; thorax much as in female, but also with cream on proepisternum, prepectus, anteriorly on mesosternum, and along sternaulus; legs paler than in female, cream on fore and middle coxae, all trochanters, anteriorly on fore and middle femora and tibiae; cream at apex of petiole, apical corners of segments 2-4, basal corners of 4 and 5, and apical margins of 2-7.

Specimen: ♀, 4 miles east of Cuernavaca, Morelos, Mexico, at 6,000 ft., June 6, 1959, H. Evans (Ithaca).

This species also occurs in the Canadian, Transition, Upper Austral and Lower Austral zones of the Nearctic region.

6. Diplazon implanus, new species

(Figure 6)

Female: 7.2 mm.; head polished, lightly shagreened on face and malar space, coarsely punctate on face, more obscurely punctate on remainder of head; gena not inflated; vertex not impressed medially; occipital carina rounded

medially; OOC 1.2x HO; face width 1.7x height, slightly narrowed ventrally; clypeus width 1.9x height, apical lobes angularly rounded with a moderate median emargination, slightly upcurved at apical margin, and lightly shagreened; malar space 0.5x basal width of mandible; upper tooth of mandible weakly concave; 17 flagellar segments; thorax polished, closely and deeply punctate on mesoscutum, obscurely on rest of thorax, polished on speculum; prepectal carina complete; pleural carina weak; mesosternal suture shallow; propodeum bearing strong dorsal, lateral, and petiolar carinae, polished and obscurely punctate on basal area, strong median carinulae on petiolar area from which arching carinulae pass to petiolar carinae; 2 hamuli on costellan fold; nervellus broken at middle; legs moderately thickened; coxae and femora polished and obscurely punctate; abdomen robust, rounded dorsally, progressively narrowed from base of segment 3 to apex of abdomen; petiole quadrate, length 1.2x width, lateral margins divergent behind spiracles, posterior margin conspicuously rounded medially, a pair of strong carinae arising at basal corners, convergent to near middle of segment, then parallel to deep transverse impression at apical 0.25, transverse impression arcuate, crossed by many strong longitudinal carinulae; petiole mostly polished between carinae, more rugulose laterad of carinae, a strong lateral carina above spiracle and a weaker sublateral carina below spiracle; segment 2 wider than long, a deep transverse impression at apical 0.25, a strong lateral carina above spiracle, basal margin deeply impressed except at middle, coarsely longitudinally striate to impression, polished and coarsely punctate behind; segment 3 with deep transverse impression at apical 0.4, a lateral carina from base to spiracle, surface sculptured as in segment 2; segment 4 with a rather deep impression at apical 0.4, striate-rugulose before impression; remainder of abdomen polished, pubescence short and sparse; epipleura distinct on segments 2, 3, and 4, inflexed.

Black. Cream on wide orbital bar, clypeus, mandible, palpi except for 2 apical segments which are more fuscous; cream on recurved humeral bar interrupted in middle of mesoscutum, tegula, scutellum, postscutellum, tip of pronotal lobe, subtegular ridge, mesepimeron, dorsal spot on prepectus; rufous on lower 0.7± of mesopleurum, most of prepectus, mesosternum, and meta-pleurum; legs largely rufous; cream on fore coxa and trochanters, anterior stripe on fore femur and fore and middle tibiae; white annulus on central 0.4 of hind tibia; fuscous at apex of hind femur, base and apex of hind tibia, and all tarsi; wings somewhat dusky; cream at apical margin of petiole and abdominal segments 4-7, posterior corners of segments 2-4.

Male: Unknown.

This species is characterized by the coarse striations of abdominal segments 2-4 and the rufous coloring of the thorax. It is most closely related to *D. scutellaris*.

Type: ♀, San Pedro Iturbide, 32± km. west of Linares, Nuevo Leon, Mexico, Oct. 6, 1962, H. & M. Townes (Townes).

7. Diplazon rufoscutatus, new species

(Figure 7)

Female: 6.1 mm. (3.7-5.8 mm.); head shagreened and abundantly punctate on face, more polished on rest of head, all heavily punctate; gena not inflated; vertex deeply impressed medially; occipital carina rounded medially; OOC 1.4x (1.3x) HO; face width 1.7x (1.9x) height, parallel margined; clypeus

width 1.7x (1.8x) height, apical lobes rounded with a moderate median emargination, slightly upcurved at apical margin, lightly shagreened; malar space 0.7x basal width of mandible; upper tooth of mandible shallowly concave; 17 (18) flagellar segments; thorax polished, deeply and closely punctate, except on speculum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum with moderately developed dorsal carinae, weakly developed lateral and petiolar carinae, polished and punctate on basal area, more scabrous on petiolar area; 3 hamuli on costellan fold; legs slender, polished and obscurely punctate on coxae and femora; abdomen rounded dorsally, progressively narrowed apically; petiole quadrate, length 1.0x width, a pair of low carinae arising at base, converging to middle and then fading out, a deep transverse impression at apical 0.25, punctate and scabrous; segment 2 much wider than long, a deep impression at apical 0.3, densely punctate; segment 3 with deep impression at apical 0.4, deeply and closely punctate; segments 4 and 5 with deep impressions near middle, deeply and abundantly punctate before, more sparsely behind impressions; abdomen covered with an abundant short pubescence; epipleura distinct on abdominal segments 2 and 3, inflexed.

Black. Cream on orbital bar that touches clypeus, clypeus, mandible, palpi, axillary sclerites; rufous on mesoscutum, tegula, scutellum, postscutellum, most of pronotal lobe, upper 0.8 of mesopleurum, and prepectus; black on base of fore coxa, basal half of middle and all of hindcoxa, posterior stripe on fore femur and tibia, middle femur except apex, middle tibia except anteriorly, middle tarsus, hind femur, base and apex of hind tibia, and hind tarsus; cream on remainder of legs, more tawny rufous on fore tarsus.

Male: 5.1-6.1 mm.; petiole length 1.25x width.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, scape and pedicel ventrally; thorax and legs as in female, but with cream on tip of proepisternum, and most of fore and middle coxae.

This species is readily recognized by the rufous color of the thorax, the black and white markings of the legs, the weak carinae of the propodeum, the deep transverse impressions of abdominal segments 1-5, and the sculpturing of the abdomen.

Type: ♀, Cordillera de Lonquimay, Lago Galletue, Chile, Jan. 9-12, 1962, L. Peña (Townes).

Paratypes: ♀, Chiloe Island, Dalcahue, Chile, Jan. 17-Feb. 14, 1962, L. Peña (Townes). ♂, Banos de Cauquenes, Chile, 1907, P. Herbst (Cambridge). ♂, ♀, Liucura, Malleco, Chile, Jan. 1-9, 1959, L. Peña (Ottawa).

8. Diplazon pullatus, new species

(Figure 8)

Female: Unknown.

Male: 5.5 mm. (4.6 mm.); head shagreened on face, polished and finely punctate on frons, gena, and vertex; gena not inflated; vertex strongly impressed medially; occipital carina rounded medially; OOC 1.1x (1.0x) HO; face width 2.1x (1.9x) height, parallel margined; clypeus width 2.1x height, apical lobes rounded with a moderate median emargination, slightly upcurved at apical margin, weakly shagreened; malar space 0.6x (0.4x) basal width of mandible; upper tooth of mandible truncate; 17 (16) flagellar segments; thorax polished, deeply and moderately punctate on mesoscutum, more finely on anterior and lower mesopleurum and mesosternum; prepectal carina complete;

mesosternal suture shallow; sternaulus broad and shallow; pleural carina very weak; propodeum with moderately developed dorsal, lateral, and petiolar carinae, polished with shallow punctures on basal area and dendritic carinulae on petiolar area; 3 hamuli on costellan fold; legs slender; coxae and femora polished and obscurely punctate; abdomen slender, progressively narrowed apically; petiole short rectangular, length 1.6x width, a pair of polished submedian dorsal carinae extending to weak transverse impression at apical 0.2, scabrous; segment 2 slightly wider than long, a weak impression at apical 0.25, shagreened and weakly scabrous before, more polished and weakly punctate behind impression; segment 3 with weak impression near middle, sculptured as in 2; segment 4 with very obscure impression near middle, sculptured as in 2; rest of abdomen polished and obscurely punctate; abundant short pubescence on abdomen; epipleura distinct on abdominal segments 2, 3, and basal 0.3 of 4, inflexed; spiracle dorsad of suture on 2 and 3, posterior to end of suture on 4.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, tegula, tips of scutellum and postscutellum, tip of pronotal lobe, subtegular ridge, upper half of mesepimeron; black at extreme bases of fore and middle coxae, basal 0.6± of hind coxa, last tarsal segments of fore and middle legs, apex of hind femur, base and apex of hind tibia, all of hind tarsus; yellow on rest of coxae, trochanters, anteriorly on fore and middle femora and tibiae, narrow subbasal annulus on middle tibia; white annulus on medial 0.45 (0.4) of hind tibia; rufous on rest of legs; more dusky on middle tibia; yellow at basal corners of abdominal segments 4 and 5, orange-yellow at apical corners of segments 3 and 4, yellow apical margin on segments 2-7.

This species is recognizable by the blackened hind coxa, weak transverse impressions on the abdomen, the puncturing of the thorax, the scabrous abdomen, and the truncate upper tooth of the mandible.

Type: ♂, Hidalgo National Park, State of Mexico, Mexico, at 3,000 m., Oct. 12, 1962, H. & M. Townes (Townes).

Paratype: ♂, same data as type (Townes).

9. Diplazon anolcus, new species

(Figure 9)

Female: 4.4 mm.; head shagreened, more polished on frons and gena, obscurely punctate on gena and vertex; gena weakly inflated; vertex strongly impressed medially; occipital carina rounded medially; OOC 1.4x HO; face width 1.8x height, parallel margined; clypeus width 2.2x height, apical lobes angulate with a moderate median emargination, slightly upcurved at apical margin, shagreened; malar space 0.5x basal width of mandible; upper tooth of mandible shallowly concave; 17 flagellar segments; thorax polished, obscurely punctate, lightly shagreened low on pronotum, proepisternum, and low on metapleurum; prepectal carina complete; mesosternal suture moderately deep; pleural carina strong; propodeum with partial transverse carina between basal and petiolar areas, mostly shagreened; nervulus slightly basad of basal vein; 2 hamuli on costellan fold; legs slender; coxae polished, femora lightly shagreened and obscurely punctate; abdomen slender, rounded dorsally, progressively narrowed from base of segment 4 to apex; petiole slender rectangular, length 1.7x width, shagreened, dorsal carinae and transverse impression lacking; segment 2 slightly wider than long, shagreened, more polished near

apex, a faint transverse impression at apical 0.3; segment 3 shagreened on basal 0.5±; remainder of abdomen polished, covered with a short light pubescence; epipleura distinct on segment 2 and basal 0.3 of 3, inflexed.

Black. Yellow on narrow inner orbital bar, clypeus, mandible, palpi, humeral bar, scutellum, postscutellum, tegula, tip of pronotal lobe, subtegular ridge, upper end of mesepimeron, wing bases, fore and middle coxae, apical 0.5± of hind coxa, trochanters, anteriorly on fore and middle femora and tibiae, and apex of hind femur; black on basal 0.5± of hind coxa, hind femur except at apex, base and apex of hind tibia, hind tarsus, posterior stripe on fore and middle femora and tibiae; narrow white annulus on medial 0.2± of hind tibia; most of remainder of fore and middle legs tawny rufous; yellow spots at basal corners of abdominal segments 3-5 and posterior corners of segments 4-6.

Male: 4.2-4.4 mm.; face width 2.0-2.1x height; malar space 0.7x basal width of mandible; 17 flagellar segments; OOC 1.3-1.4x HO; petiole length 1.9-2.0x width; abdomen more pubescent than in female; transverse carina of propodeum lacking; transverse impressions of abdominal segments 2 and 3 almost completely lacking.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, pedicel ventrally; thorax and legs colored as in female; yellow at apical corners of abdominal segments 2, 3, and 4, and basal corners of segments 3 and 4.

This species is recognizable by the general lack of transverse impressions and the even shagreening on the abdomen; the lack of carinae on the propodeum and petiole, and the color of the legs and abdomen.

Type: ♀, west slope of Popocatepetl, Mexico, at 10,000 ft., June 22, 1959, H. Evans (Ithaca).

Paratypes: 3♂, 23 miles south of Toluca, Mexico, at 7,700 ft., Aug. 9, 1954, J. Chillcott (Ottawa).

10. Diplazon prolatus, new species

(Figure 10)

Female: 6.7 mm. (7.1 mm.); head shiny shagreened, obscurely punctate on vertex and gena; gena slightly inflated; vertex shallowly impressed medially; occipital carina rounded medially; OOC 1.1x HO; face width 1.6x (1.7x) height, slightly narrowed ventrally; clypeus width 1.7x (1.9x) height, apical lobes angulate with a moderate median emargination, slightly upcurved at apical margin, polished; malar space 0.5x (0.4x) basal width of mandible; upper tooth of mandible oblique and weakly concave; 17 flagellar segments; thorax polished, finely punctate on mesoscutum and pronotum; prepectal carina complete; pleural carina low; mesosternal suture shallow; propodeum bearing well developed dorsal, lateral, and petiolar carinae, median vertical carinulae on petiolar area, remainder polished; 3 hamuli on costellan fold; legs slender; coxae and femora polished, obscurely punctate on femora; abdomen slender and elongate, strongly narrowed from base of segment 4, strongly compressed from segment 5 to apex; petiole short rectangular, length 1.5x (1.6x) width, margins parallel behind spiracles, weak carinae arising at basal corners, converging to near middle and then fading out, longitudinally finely striate, a weak transverse impression at apical 0.2; segment 2 slightly longer than wide, striate to strong transverse impression at apical 0.3, polished behind impression; segment 3 striate on basal 0.6 to shallow transverse impression; polished behind impression and over remainder of abdomen; hairs on abdomen short and sparse.

Black. Cream on short narrow inner orbital bar or the bar sometimes reaching the clypeus, clypeus, mandible, palpi, humeral bar, tegula, bases of wings, tip of pronotal lobe, subtegular ridge, mesepimeron, posterior spot on scutellum, postscutellum; rufous on most of mesopleurum, small spot on pronotal lobe, metapleurum, propodeum; legs largely rufous; cream on fore and middle coxae and trochanters; white median annulus on hind tibia; more dusky on base and apex of hind tibia, and on middle and hind tarsi; small cream spot at basal corner of each of segments 4-6; rufous on lateral margin of petiole, around spiracles of segments 2 and 3, and apical edges of segments 2-4.

Male: 5.2 mm.; face width 1.85x height; OOC 1.0x HO; abdomen more abundantly pubescent than in female.

Colored much as in female, but with wider inner orbital bar reaching to clypeus; rufous of thorax more limited on mesopleurum and largely lacking from propodeum; abdomen lacking rufous markings.

This species is distinguishable through the elongated abdomen, the striations of the first three abdominal segments, and the rufous markings of the thorax.

Type: ♀, 185.5 km., Tuxtepec-Oaxaca Rd., Oaxaca, Mexico, at 2,200 m., Oct. 22, 1962, H. & M. Townes (Townes).

Paratypes: ♂, ♀, Jalapa, Veracruz, Mexico, Sept. 28-Oct. 3, 1961, R. & K. Dreisbach (Dreisbach).

11. Diplazon pectoratorius Thunberg

(Figure 11)

Ichneumon pectoratorius Thunberg, 1822. Mém. Acad. Sci. St. Pétersbourg 8: 280. ♂. Type: ♂, Sweden (Uppsala).

Ichneumon angustorius Thunberg, 1822. Mém. Acad. Sci. St. Pétersbourg 8: 280. ♀. Type: ♀, Sweden (Uppsala).

Bassus pectoratorius Gravenhorst, 1829. Ichneum. Europaeae 3: 333. ♂, ♀. Types: ♂, ♀, Germany (lost). Name preoccupied by Thunberg, 1822.

Bassus pulchripes Provancher, 1875. Nat. Canad. 7: 143, 144. "♂"=♀. Lectotype: ♀, Quebec (Quebec).

Polysphincta pleuralis Provancher, 1875. Nat. Canad. 7: 312. "♂"=♀. Type: ♀, Quebec (Quebec).

Homocidus akaashii Uchida, 1931. Bul. Forest Exp. Stat. Gov. Gen. Chosen 12: 24, 50. ♂. Type: ♂, Kankio-hokudo, Korea (Sapporo).

Bassus urupensis Uchida, 1935. Insecta Mats. 9: 118. ♂, ♀. Type: ♀, Tokotan, Kuriles (Sapporo).

Female: 7.3-9.4 mm.; head shagreened on face and malar space, more polished on frons and gena, all finely punctate; OOC 1.4-1.6x HO; face width 1.8-1.9x height, parallel margined; clypeus width 2.1-2.2x height, apical lobes angularly rounded with a moderate median emargination, lightly shagreened; malar space 0.35-0.5x basal width of mandible; upper tooth of mandible shallowly bidentate; 17-19 flagellar segments, first segment length 4.0-4.2x width; flagellum covered with short inclined hairs; thorax polished, finely punctate except posteriorly on mesopleurum; notaulus deep on basal 0.25 of mesoscutum; mesosternal suture shallow; prepectal carina lacking ventrally; pleural carina partially obsolete; propodeum usually lacking carinae, or weak petiolar carinae present, basal and lateral areas polished and finely punctate, petiolar area covered with vertical arcuate carinulae; 3-4 hamuli on costellan fold; legs

slender; coxae and femora polished and obscurely punctate; numerous setae on external face of hind tibia; abdomen rather slender, rounded dorsally, progressively narrowed from base of segment 4; petiole quadrate, length 1.0-1.2x width, margins slightly divergent behind spiracles, rugulose, a pair of indistinct carinae arising at base, converging to middle, then parallel to a deep transverse impression at apical 0.2; segment 2 slightly wider than long, usually a rather deep impression at apical 0.3, scabrous before impression, polished and punctate behind; segment 3 with indistinct impression behind middle, sculptured as in 2; rest of abdomen polished or lightly shagreened, abundantly but obscurely punctate; numerous short hairs distributed over surface; epipleura distinct on segments 2 and 3, inflexed.

Black. Cream on clypeus, mandible, palpi, and inner orbital bar; flagellum occasionally tawny ventrally; cream on large humeral bar, tegula, apices of scutellum and postscutellum, capillary lines between wings, tip of pronotal lobe, and spot under each wing; rufous on prepectus, mesopleurum, mesosternum, usually metapleurum, scutellum, and more or less of mesoscutum; legs rufous on middle and hind coxae and femora; tawny on fore coxa and femur; white on all trochanters, fore and middle tibiae, fore tarsus, two basal segments of middle tarsus, apex of hind femur, hind tibia except apex, and basal 0.5± of hind basitarsus; black at apex of hind tibia, apex of hind basitarsus and rest of hind tarsus, and apical three segments of middle tarsus.

Male: 7.1-7.4 mm.; OOC 1.1-1.4x HO; face width 2.0x height; clypeus width 1.8-2.1x height; 18-21 flagellar segments; flagellum covered with short erect hairs ventrally, inclined dorsally; petiole length 1.3-1.6x width.

Black. Pale yellow on clypeus, mandible, palpi, face, malar space, inner orbit, antenna ventrally; thorax marked as in female, but with cream on propisternum, more of pronotal lobe, prepectus, longitudinal stripe on mesopleurum, mesepimeron, laterally on scutellum; legs mostly as in female but with middle coxa cream.

This species may be recognized by the color of the hind tibia and tarsus, the absence of the prepectal carina ventrally, the weak propodeal carinae, the transverse impressions weak or absent on abdominal segments 3 and 4, the abdomen usually scabrous and black dorsally, and the mesoscutum frequently marked with rufous.

Specimens: ♂, ♀, Hidalgo National Park, State of Mexico, Mexico, at 3,000 m., Oct. 12, 1962, H. & M. Townes (Townes).

This species occurs also in Eurasia and in the Hudsonian and Transition zones of the Nearctic region.

12. Diplazon mulleolus, new species

(Figure 12)

Female: 6.3 mm. (6.4 mm.); head shiny shagreened, more polished on frons, vertex, and gena; gena not inflated; vertex shallowly impressed medially; occipital carina narrowly rounded medially; OOC 0.8x (0.7x) HO; face width 1.8x height, slightly narrowed ventrally; clypeus width 2.3x height, apical lobes angularly rounded with a shallow median emargination, slightly up-curved at apical margin, weakly shagreened; malar space 0.6x basal width of mandible; upper tooth of mandible subtruncate; 16 flagellar segments; thorax polished, finely punctate except on speculum and metapleurum; notaulus deep on basal 0.2 of mesoscutum; prepectal carina complete; mesosternal suture

shallow; pleural carina low; propodeum bearing strong dorsal, lateral, and petiolar carinae, basal area polished, petiolar area broad and shagreened; 3 (2) hamuli on costellan fold; legs slender, coxae polished, femora obscurely punctate; abdomen rather elongated, rounded dorsally, compressed from middle of segment 3, strongly compressed from segment 5 to apex of abdomen; petiole short rectangular, length 1.3x width, margins divergent behind spiracles, a pair of moderately strong carinae arising at basal corners, convergent to middle and then becoming obsolete, a deep transverse impression at apical 0.25, a series of longitudinal carinae in impression, shagreened medially and more rugulose laterally; segment 2 wider than long, shagreened before deep transverse impression at apical 0.3, polished behind; segment 3 lightly shagreened on basal 0.3; remainder of abdomen polished; epipleura distinct on segment 2 and basal 0.7 of 3, inflexed.

Rufous. Cream on narrow inner orbit, malar space, clypeus, mandible, palpi, and pedicel ventrally; black on rest of head and antenna; yellow on humeral bar, scutellum, postscutellum, proepisternum, tip of pronotal lobe, ventral edge and posterior tip of pronotal lobe, ventrally on prepectus, tegula, subtegular ridge, mesepimeron, spot on lower mesopleurum; legs cream on coxae and trochanters; tawny on femora and fore and middle tibiae and tarsi; fuscous on posterior stripes on fore and middle femora, dorsal stripes on fore and middle tibiae, basal and apical rings on hind femur and tibia, and all of hind tarsus; white median annulus on hind tibia and basal 0.3 of hind basitarsus; small cream spots at apical corners of abdominal segments 2, 3, and 4, and basal corners of segments 4-7; abdomen dusky rufous.

Male: 5.1-5.3 mm.; clypeus width 2.15-2.3x height; malar space 0.6-0.7x basal width of mandible; OOC 0.9-1.0x HO; 17 flagellar segments; petiole length 1.6-1.8x width; abdomen gradually tapered apically; transverse impression weakly indicated on segment 3.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, tegula, scutellum, postscutellum, most of pronotum, proepisternum, subtegular ridge, prepectus, lower 0.5 of mesopleurum, and mesepimeron; rufous on mesoscutum except anteriorly, rest of mesopleurum, mesosternum, and metapleurum; legs as in female; abdomen dusky rufous; yellow spots at apical corners of segments 2 and 3, basal corners of segments 2-6.

This species is distinguishable by the extensive rufous coloration of the thorax and abdomen, the coloration of the legs, the elongation and compression of the female abdomen, and the short distance from the hind ocellus to the occipital carina.

Type: ♀, Nova Teutonia, 27° 11' S., 52° 23' W., Brazil, at 300-500 m., Aug. 12, 1948, F. Plaumann (Ottawa).

Paratypes: 3♂, 2♀, same locality as type, Aug. 9, 10, and 12, 1948, F. Plaumann (Ottawa).

2. Genus HOMOTROPUS

(Figure 65)

Homotropus Foerster, 1868. Verh. Naturh. Ver. Preuss. Rheinlande 25: 162. Type: *Bassus elegans* Gravenhorst. Automatically selected by Viereck, 1912, when designated as genotype for isogenotypic *Homocidus*. *Homoporus* Thomson, 1890. Opusc. Ent. 14:1488. *Lapsus* for *Homotropus*. Name preoccupied by Thomson, 1878.

Homocidus Morley, 1911. Ichneumon. Brit. 4: 87. New name for *Homoporus* Thomson, 1890.

Length 3.5-10.2 mm.; head transverse, width 1.15-1.50x height; face width 1.5-2.7x height, shagreened, usually punctate; clypeus width 1.5-2.75x height, basal margin level with face, indistinctly separated from the face by a weak crease or more definitely by a suture, surface flattened or impressed along apical margin, apical lobes well developed in most species; 17-25, usually 18-20, flagellar segments; antenna usually subequal to, or slightly shorter than wing length; segments progressively shorter to apical segment; sense cones usually separated by at least the width of a sense cone, but occasionally densely arranged; tyloids usually present on male antenna, variable; length of first flagellar segment 3.2-6.5x greatest diameter; occipital carina varying from narrowly to broadly rounded medially; malar space 0.4-1.0x basal width of mandible; female face seldom with yellow orbits; thorax length 1.6-2.1x width of mesonotum, variously sculptured; notaulus lacking; sternaulus shallow; propodeum usually lacking carinae or weakly carinate; wing usually possessing areolet; nervulus opposite or distad of basal vein; nervellus usually broken below middle, seldom at middle; 2-4, rarely 1 or 5, hamuli on costellan fold; second abscissa of subdiscoideus varying from slightly to much shorter than first abscissa; hind tibia slightly shorter than, or subequal to length of thorax, its inner spur 0.35-0.58x length of hind basitarsus; hind tibia with few to many setae on external surface; hind tibia varying in color from tawny-rufous to black and white banded; abdomen rounded dorsally and tapered apically, only occasionally strongly compressed; caudal margin of each tergum transverse or slightly convex; petiole in dorsal view varying from almost quadrate to short rectangular, dorsal carinae varying from strong to absent; second and third segments usually wider than long; epipleura distinct on segment 2 and part of 3; spiracle dorsad of lateral suture on segment 2, dorsal to, posterior to, or ventral to suture on 3; length of abdomen 0.8-1.5x combined lengths of hind femur and tibia; transverse impressions lacking from abdomen.

Key to the Neotropic species of Homotropus

Females

(Females of *calvus*, *cuneatus*, *lissosoma*, and *trachysoma* are unknown.)

1. Hind tibia black at base and apex with a white medial annulus 2
Hind tibia colored otherwise. 5
2. Thorax and propodeum rufous and cream; clypeus lacking apical lobes; basal vein straight; flagellum flattened and lacking sense cones ventrally on segments 10 to apex 22. masoni, new species
Thorax and propodeum black and cream or yellow; clypeus with apical lobes present; basal vein slightly curved; flagellum not flattened and not lacking sense cones on segments 10 to apex 3
3. Abdomen rufous on most of segment 2 to apex of abdomen; mesoscutum evenly shagreened; malar space 0.6x basal width of mandible; OOC 1.0x HO 13. interstinctus, new species
Abdomen black; mesoscutum polished and partially punctate; malar space 0.9-1.0x basal width of mandible; OOC 1.6-2.0x HO 4

4. Areolet present; face black with small medial yellow spot; humeral bar short; femora rufous; spiracle of petiole anterior to middle of segment; petiole length 1.2x width 1. brevis, new species
 Areolet lacking; face entirely cream; humeral bar long recurved; femora black; spiracle of petiole at middle of segment; petiole length 1.7x width. 11. preclarus, new species
5. Thorax extensively rufous; areolet lacking; abdomen elongated and compressed from segment 2 to apex; flagellar segment one 8.3x as long as wide; thorax slender, length 2.25x width of mesoscutum; clypeus apically truncate and not impressed. 17. dolichus, new species
 Thorax not rufous; areolet present or absent; abdomen usually not elongated, but if so, then not compressed; flagellar segment one 4.0-5.4x as long as wide; thorax broader, length 1.6-1.9x width of mesoscutum; clypeus usually lobed and often impressed along apical margin 6
6. Abdomen elongated, equal to fore wing length; ramellus present; legs rufous; mesoscutum polished and heavily punctate. 18. macrogaster, new species
 Abdomen much shorter than length of fore wing; ramellus lacking; legs variously colored; mesoscutum variously sculptured 7
7. Areolet lacking 8
 Areolet present 10
8. Prepectal carina complete; inner orbital bar lacking. 14. pacificus Cresson
 Prepectal carina lacking ventrally; inner orbital bar present. 9
9. Abdomen black, terga of segments 2-5 spotted with cream at posterior corners; hind coxa rufous; mesoscutum polished and abundantly punctate 10. maculifrons Cresson
 Abdomen banded with black and rufous; hind coxa black and yellow; mesoscutum evenly shagreened 12. mexicanus, new species
10. Yellow inner orbital bar present; abdomen rufous from segment 2 to apex. 11
 Yellow inner orbital bar lacking; abdomen variously colored 12
11. Mesoscutum polished, deeply and abundantly punctate; inner orbital bar not extending into malar space; hind coxa usually rufous. 2. decoratus Cresson
 Mesoscutum polished, obscurely punctate; inner orbital bar extending into malar space; hind coxa black and yellow. 8. comptus, new species
12. Hind leg largely fuscous except paler at apex of femur and ventrally on tibia at base; OOC 2.0-2.25x HO; malar space 0.5-0.6x basal width of mandible 13
 Hind leg variously colored, but not as above; OOC 1.4-1.6x HO (except 1.9-2.0x in *stictonotus*, but malar space then 0.8-0.9x basal width of mandible) 14

13. Propodeum rugulose and shagreened on petiolar area; petiole shagreened and finely striate; areolet sessile; humeral bar present; abdomen cream-yellow on apical margins of segments 2-7; petiole length 1.5x width.
 19. alternatus, new species
 Propodeum polished; petiole mostly polished; areolet petiolate; humeral bar lacking; abdomen black dorsally; petiole length 1.9x width.
 20. furvus, new species
14. Mesoscutum polished, deeply and abundantly punctate 15
 Mesoscutum shagreened and finely punctate, or polished and nearly impunctate 16
15. Abdomen black; coxae largely blackened; mesopleurum black; face width 1.9-2.0x height 3. nigritarsus fuscitarsus Provancher
 Abdomen rufous from segment 2 to apex; coxae yellow on most of fore and middle coxa and apex of hind coxa; mesopleurum with a longitudinal stripe on lower surface; face width 1.6x height.
 5. ruficauda, new species
16. Abdomen largely yellow from segment 2 to apex; legs striped with black and pale yellow; mesoscutum polished and nearly impunctate.
 6. flavidus, new species
 Abdomen and legs variously colored, but not as above; mesoscutum variously sculptured or polished 17
17. Abdomen black; face black; mesoscutum and mesopleurum polished, sparsely and finely punctate; apical lobes of clypeus small.
 16. chilensis, new species
 Abdomen variously marked with rufous or yellow; face marked with yellow medial spot; mesoscutum and mesopleurum shagreened, or if polished, then abundantly punctate; apical lobes of clypeus rather well developed.
 18
18. Thorax shagreened and finely punctate; apex of abdomen dusky rufous; malar space black; face width 1.6-1.7x height; OOC 1.9-2.0x HO.
 4. stictonotus, new species
 Thorax polished and obscurely punctate on mesoscutum, more abundantly punctate and lightly shagreened on mesopleurum; abdomen rufous apically and yellow laterally; malar space more or less yellow; face width 2.0-2.1x height; OOC 1.6x HO. 7. limbatus, new species

Males

(Males of *alternatus*, *furvus*, *masoni*, *mexicanus*, *dolichus*, and *macrogaster* are unknown.)

1. Hind tibia black at base and apex with a white medial annulus 2
 Hind tibia colored otherwise. 4
2. Mesoscutum evenly shagreened; OOC 0.9x HO; mesosternum extensively marked with cream 13. interstinctus, new species
 Mesoscutum polished and partially punctate; OOC 1.5x HO; mesosternum black 3

3. Areolet present; humeral bar short; femora rufous; spiracle of petiole anterior to middle of segment; petiole length 1.2x width; tyloids on flagellar segments 7-13 1. brevis, new species
 Areolet lacking; humeral bar long recurved; femora black; spiracle of petiole at middle of segment; petiole length 1.85x width; tyloids lacking. 11. preclarus, new species
4. Areolet lacking 5
 Areolet present. 7
5. Mesoscutum polished and impunctate; propodeum with transverse carina between basal and petiolar areas; occipital carina angulate medially. 21. lissosoma, new species
 Mesoscutum polished and punctate or shagreened; propodeum lacking transverse carina; occipital carina rounded medially 6
6. Prepectal carina incomplete ventrally; abdomen black, terga spotted with cream at apical corners; mesoscutum polished and deeply punctate; sense cones on flagellum closer together than the width of a cone. 10. maculifrons Cresson
 Prepectal carina complete; abdomen variously banded with rufous on medial segments; mesoscutum evenly shagreened; sense cones separated by more than the width of a cone 14. pacificus Cresson
7. Tyloids on flagellar segments 7-10; thorax polished and nearly impunctate; flagellum longer than fore wing 15. calvus, new species
 Tyloids on flagellar segments 6 or 7-13, 14, 15, or 16; thorax variously sculptured, occasionally polished; flagellum shorter than, or subequal to, length of fore wing 8
8. Face black with wedge-shaped inner orbital bar present; apical margin of clypeus nearly truncate; mesopleurum and sternum black 9
 Face yellow, occasionally black capillary lines extending onto face from antennal fossae; apical margin of clypeus usually lobed; mesopleurum, sometimes sternum, and often abdomen marked with yellow or rufous. 10
9. Mesoscutum polished; abdomen extensively dusky yellow, marked with black spots 6. flavidus, new species
 Mesoscutum shagreened; abdomen black 9. cuneatus, new species
10. Mesoscutum heavily shagreened; yellow on lower mesopleurum, mesosternum, proepisternum, and pronotal lobe; abdomen black, yellow banded basally on segments 3-5 11
 Mesoscutum polished and punctate, or if shagreened, then the thorax and abdomen not as above 12
11. Mesoscutum mostly impunctate; humeral bar not recurved; scutellum black 16. chilensis, new species
 Mesoscutum abundantly punctate; humeral bar long recurved; scutellum marked extensively with yellow 23. trachysoma, new species

12. Abdomen black or banded with yellow at basal margins of medial segments.
 13
 Abdomen variously marked with rufous or yellow, either laterally or
 apically on segments, but not at basal margins 14
13. Mesoscutum polished, deeply and abundantly punctate; abdomen yellow
 banded or spotted at bases of abdominal segments 3-6.
 3. nigritarsus fuscitarsus Provancher
 Mesoscutum shagreened and finely punctate; abdomen black.
 4. stictonotus, new species
14. Humeral bar not recurved; face width 1.6-1.9x height.
 5. ruficauda, new species
 Humeral bar long recurved usually; face width 2.15-2.3x height 15
15. Mesoscutum polished, deeply and abundantly punctate; mesopleurum pol-
 ished and punctate; many setae on external face of hind tibia.
 2. decoratus Cresson
 Mesoscutum polished or lightly shagreened and lightly punctate; meso-
 pleurum partly shagreened and finely punctate; few setae on external
 face of hind tibia. 16
16. OOC 1.3-1.45x HO; tyloids on flagellar segments 7-14; prepectus black;
 abdominal terga yellow laterally from segment 2 to abdominal apex.
 7. limbatus, new species
 OOC 1.8x HO; tyloids on flagellar segments 6-15; prepectus yellow; ab-
 dominal terga black laterally from segment 2 to abdominal apex.
 8. comptus, new species

1. Homotropus brevis, new species

(Figure 13)

Female: 4.6 mm. (3.9 mm.); head shagreened, more polished and ob-
 scurely punctate on gena; occipital carina rounded medially; OOC 1.75x (1.6x)
 HO; frons medially sulcate before fore ocellus; face width 1.7x (1.8x) height;
 clypeus separated from face by a weak crease, width 1.85x height, apical
 lobes rounded with a moderate median emargination, impressed along apical
 margin, shagreened; malar space 1.0x (0.9x) basal width of mandible; upper
 tooth of mandible obliquely subtruncate; 19 (18) flagellar segments; sense cones
 separated by more than the width of a cone, conspicuous; hairs on flagellum
 short and inclined; mesoscutum polished, finely punctate on basal 0.25; re-
 mainder of thorax mostly polished, punctate on mesopleurum and mesoster-
 num, with some light shagreen on pronotum and lower mesopleurum; prepec-
 tal carina complete; mesosternal suture shallow; pleural carina well defined;
 propodeum mostly polished dorsally, roughly shagreened laterally, petiolar
 area enclosed by several weak circular carinulae; areolet present, broadly
 sessile, second intercubitus unpigmented; nervulus opposite basal vein; ner-
 vellus broken below middle; 3 hamuli on costellan fold; legs slender; lightly
 shagreened and obscurely punctate on coxae and femora; no setae on external
 face of hind tibia; abdomen narrowed from base of segment 4, rather strongly
 compressed from segment 6 to apex; petiole length 1.2x width, shagreened and

finely striate medially, more rugulose laterally, margins divergent behind spiracles; segment 2 wider than long, striate at base, medially shagreened, and more polished at apex; segments 3 and 4 shagreened on basal 0.5, polished on remainder of these segments and remainder of abdomen; epipleura distinct on segment 2 and basal 0.6 of 3; spiracles dorsad of sutures; abdomen nearly glabrous.

Black. Yellow on small median facial spot, clypeus except for dusky apical lobes, palpi, anteriorly on tegula, subtegular ridge, spot posteriorly on lower mesopleurum; fuscous posteriorly on tegula and on axillary sclerites; legs largely rufous; black at base of fore coxa, most of middle and hind coxa, all first trochanters; cream on remainder of coxae and trochanters, annulus medially on hind tibia, and apex of each femur; dusky at base and apex of hind tibia, dorsal stripe on fore and middle tibiae, all tarsi; cream on stigma dorsally and ventrally; reddish-brown at apical margins of abdominal segments 2, 3, and 4.

Male: 3.7 mm.; face width 1.7x height; clypeus width 2.2x height; malar space 0.6x basal width of mandible; OOC 1.5x HO; 18 flagellar segments; tyloids on flagellar segments 7-13.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape ventrally; thorax and legs colored as in female, but with black of fore and middle coxae limited to base; abdomen with pale basal margin on segments 4 and 5.

This species is recognizable by the banded hind tibia, black coxae, polished mesoscutum, and short petiole.

Type: ♀, Laguna Amarga, Natales, Magallanes, Chile, Dec. 14-21, 1960, L. Peña (Townes).

Paratypes: ♀, Caramavida, Arunco, Chile, Feb. 10, 1953, L. Peña (Ottawa). ♀, Hda Illapel, Coquimbo, Chile, Oct. 28, 1954, L. Peña (Ottawa). ♂, La Fusta, Cord. Lonquimay, Chile, Feb. 6-21, 1962, L. Peña (Townes). ♀, Las Cabras, Chile, at 1,480 m., Dec. 10-23, 1954, L. Peña (Ottawa). 3♀, La Leonora, O'Higgins, Chile, Dec. 28, 1954, L. Peña (Ottawa). 3♂, 1♀, Liucura, Malleco, Chile, Jan. 1-9, 1959, L. Peña (Ottawa). 2♀, Pichinahuel, Cordillera Nahuelbuta, Arauco, Chile, at 1,100-1,400 m., Jan. 1-10 and 20-28, 1959, L. Peña (Ottawa). ♀, Port. de Puyehue, Osorno, Chile, March 13-19, 1955, L. Peña (Ottawa).

2. Homotropus decoratus Cresson

(Figure 14)

Bassus decoratus Cresson, 1878. Proc. Acad. Nat. Sci. Phila. 1878: 375. ♂.

Type: ♂, California (Philadelphia).

Biology: Kamal, 1926. Jour. Econ. Ent. 19: 723, 727. - Kamal, 1939. Tech. Scient. Serv. Bul. Min. Agr. Egypt 207: 12, 23-35, 46-47, figs. 33-34, 91.

Female: 5.2-6.6 mm.; head shagreened and finely punctate, more polished on frons and gena; OOC 1.50-1.75x HO; face width 2.1-2.2x height; clypeus separated from face by a definite suture, width 1.9-2.6x height, apical lobes weakly rounded with median emargination shallow, impressed laterally on apical lobes, polished and punctate; malar space 0.6-0.8x basal width of mandible; upper tooth of mandible strongly bidentate; 19-21 flagellar segments, first segment length 3.8-4.5x width; sense cones sparse on segment

one, inconspicuous; flagellum covered with a short erect pile; thorax polished, closely and deeply punctate; mesosternal suture shallow; pleural carina low; propodeum bearing complete lateral carinae, shagreened basally, petiolar area vertically carinate medially, rugulose on rest; wing areolet small and rectangular, petiolate, second intercubitus unpigmented; 2-3 hamuli on costellan fold; legs stout; coxae and femora polished and obscurely punctate; numerous strong setae on external face of hind tibia; abdomen rounded dorsally, widened to segment 3, progressively narrowed from base of segment 4 to apex of abdomen; petiole stout, margins slightly divergent, length 1.1-1.3x width, shagreened, striate laterally behind spiracle, a pair of carinae converging from base to near middle; segment 2 wider than long, striate basally; rest of abdomen shagreened, more polished from segment 3 to apex; abdomen lightly pubescent; epipleura distinct on segment 2, basal 0.8 of 3, inflexed; spiracles dorsad of sutures.

Black. Yellow on clypeus but darkened on impressed areas; yellow on mandible, palpi, orbital bar widened ventrally, round median facial spot; rufous ventrally on scape; yellow on humeral bar, tegula, tip of pronotal lobe, spot under fore wing, mesepimeron, two spots or a band apically on scutellum, capillary lines between wings; legs largely rufous; dusky rufous on hind tibia and tarsus; yellow on fore and middle coxae; blackened basally and internally on fore and middle coxae; abdomen rufous, black on most of segment one and at apex of abdomen. Occasional specimens tend to have the black extending onto segment 2 and spreading anteriorly on segments 4 and 5. These specimens usually show a partial infuscation of the hind coxa.

Male: 5.2-7.2 mm.; OOC 1.5-1.7x HO; face width 2.2x height; clypeus width 2.3-2.4x height, truncate apically, median emargination lacking, weakly impressed apically, polished and impunctate; 19-22 flagellar segments; tyloids on segments 6 or 7 to 14 or 15; hairs of flagellum short and erect; abdomen slender; petiole length 1.4x width; abdomen strongly pubescent.

Black. Bright yellow on clypeus, mandible, palpi, face, malar space, inner orbit, scape and pedicel ventrally, humeral bar recurved to middle of mesoscutum, widened at end of band, all or part of scutellum, proepisternum, tip of pronotal lobe, spot under fore wing, mesepimeron, prepectus, narrow longitudinal stripe on mesopleurum, a short line internal to sternaulus; legs as in female, but with more yellow on all coxae apically; black basally and internally on all coxae, first hind trochanter; rufous on apical half of abdominal segment 2, all of 3, apically or all of 4 and 5; yellow at base of each of segments 3-5; rufous ventrally. In some specimens the abdomen of the male is sometimes heavily blackened so that only the apical margins of segments 2-6 are rufous and the coxae are more extensively blackened than usual. Very rarely the recurved portion of the humeral bar is lacking.

Specimen: ♂, Rosarito Beach, Baja California, Mexico, April 2, 1939, C. Michener (San Francisco).

This species occurs along the west coast of North America from Baja California to southern British Columbia.

3. Homotropus nigratarsus fuscitarsus Provancher

(Figure 15)

Tryphon humeralis Provancher, 1875. Nat. Canad. 7: 116. "♀"=♂. Lectotype: ♂, Quebec (Quebec).

Bassus fuscitarsus Provancher, 1875. Nat. Canad. 7:143. "♂"=♀. Lecto-
type: ♀, Quebec (Quebec).

Biology: Kamal, 1926. Jour. Econ. Ent. 19:723, 727. - Heiss, 1938. Ill.
Biol. Monog. 36 (1):99-100. - Kamal, 1939. Tech. Scient. Serv. Bul.
Min. Agr. Egypt 207:25-26, 47, 54, fig. 35-37, 96. - Butler & Dasch,
1958. Ariz. Agr. Exp. Sta. Tech. Bul. 135:8.

Female: 4.6-6.2 mm.; head dull shagreened, finely punctate; OOC 1.4-1.6x HO; face width 1.9-2.0x height; clypeus separated from face by a weak crease, width 1.9-2.3x height, apical lobes rounded with a moderate median emargination, strongly impressed on apical lobes, polished and impunctate; malar space 0.7-0.9x basal width of mandible; upper tooth of mandible distinctly bidentate; 18-20 flagellar segments; sense cones sparse on segment one; flagellum covered with a very short sparse pile; thorax polished, deeply and abundantly punctate, lightly shagreened on pronotal lobe, usually mesopleurum, except on speculum; metapleurum more scabrous; mesosternal suture shallow; pleural carina indistinct; propodeum with complete lateral carina, shagreened basally, rugulose on petiolar area; wing areolet rectangular, sessile, second intercubitus unpigmented; 2-3 hamuli on costellan fold; legs slender; coxae and femora polished and obscurely punctate; numerous strong setae on external face of hind tibia; abdomen rounded, progressively narrowed from base of segment 4; petiole rectangular, margins weakly divergent behind spiracles, length 1.3-1.4x width, shagreened, short carinae from base to behind spiracles; segment 2 wider than long, striate basally and laterally; rest of abdomen shagreened, more polished apically; sparse pubescence on abdomen; epipleura distinct on segment 2 and basal 0.7 of 3, inflexed; spiracles dorsad of lateral sutures.

Black. Bright yellow on clypeus, mandible, round median spot on face; dusky yellow on palpi; yellow on humeral bar, apex of both scutellum and post-scutellum, tegula, tip of pronotal lobe, spot under fore wing, mesepimeron; legs rufous on femora, tibiae, and tarsi; more dusky on hind tarsus and apex of hind tibia; black in large part on coxae and first trochanters; yellow at apices of coxae, all second trochanters. Some western specimens have small yellow orbital bars. Occasionally the scutellum is black; sometimes the prepectus is yellow spotted; rarely the face is entirely black.

Male: 4.6-6.8 mm.; OOC 1.5-1.8x HO; face width 2.0-2.25x height; apical lobes of clypeus weakly rounded, apical emargination very shallow; 19-21, rarely 22, flagellar segments; tyloids on flagellar segments 6 or 7-13, 14, or 15; flagellum covered with short erect hairs; abdomen slender, widest at segment 3, gradually narrowed basad and distad of it; petiole length 1.4-1.9x width; abundant short pubescence on abdomen.

Black. Bright yellow on clypeus, mandible, palpi, face, malar space, inner orbit, scape ventrally; a black line sometimes extends down from each antennal fossa towards clypeus; yellow on humeral bar, tegula, apex of scutellum, tip of proepisternum, tip of pronotal lobe, spots laterally and ventrally on prepectus, spot under fore wing, mesepimeron; legs paler than in female, fore and middle coxae extensively marked apically with yellow; yellow spotted or banded at base of each of abdominal segments 3-6. Frequently there is a partial longitudinal yellow stripe above the middle coxa; the prepectus is occasionally all yellow; sometimes the basal yellow abdominal bands are strongly developed; occasionally the scutellum is all black.

Specimen: ♂, Juarez, Mexico, Jan. 17, 1941 (Washington).

This subspecies is distributed west of 100° W. longitude from Alaska into Mexico and eastward in the Canadian zone to the Atlantic. The typical subspecies occurs in Europe, and subspecies *groenlandicus* occurs in Greenland.

4. Homotropus stictonotus, new species

(Figure 16)

Female: 5.2 mm. (4.1-5.4 mm.); head shagreened; occipital carina rounded; OOC 2.0x (1.9x) HO; frons vertically sulcate before medial ocellus; face width 1.6x (1.7x) height; clypeus separated from face by a weak crease, width 1.85x (2.0x) height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.8x basal width of mandible; upper tooth of mandible shallowly concave; 20 (21) flagellar segments; sense cones separated by more than the width of a cone, conspicuous; hairs on flagellum short and inclined; thorax lightly shagreened, more polished laterally on mesoscutum and on speculum, moderately punctate on mesoscutum; prepectal carina complete; mesosternal suture shallow; pleural carina well developed; propodeum with lateral carina developed, shagreened on basal and lateral areas, more rugulose on petiolar area; areolet square, sessile, 2nd intercubitus unpigmented; nervulus opposite basal vein; nervellus broken below middle; 2 hamuli on costellan fold; legs slender; coxae and femora lightly shagreened and obscurely punctate; setae lacking from external face of hind tibia; abdomen rounded dorsally, progressively narrowed from segment 3 to apex of abdomen; petiole length 1.4x width, evenly shagreened, margins weakly divergent behind spiracles; segment 2 slightly wider than long; remainder of abdomen shagreened, progressively more polished towards apex; epipleura distinct on segments 2 and 3; spiracles dorsad of sutures; abdomen almost glabrous.

Black. Cream on small median facial spot, clypeus, and mandible; palpi slightly dusky; cream on humeral bar, tegula, tip of pronotal lobe, upper end of mesepimeron, longitudinal stripe posteriorly on lower mesopleurum; legs largely rufous, more dusky apically on hind tibia and on all tarsi; cream on fore and middle coxae and trochanters, apex of hind coxa, second hind trochanter, ventrally on hind tibia at base; black at bases of fore and middle coxae, hind coxa except for apex, and hind first trochanter; rufous on apical margins of abdominal segments 2 and 3, apical 0.4 of segment 4, most of remaining segments except for slight dorsal infuscation, and on epipleura. Sometimes the fore and middle first trochanters are fuscous; the rufous of the abdomen may be reduced to the apices of the terminal segments.

Male: 4.3-5.5 mm.; face width 1.7-1.9x height; clypeus width 2.1-2.3x height; malar space 0.8-1.0x basal width of mandible; OOC 1.4x HO; 20-21 flagellar segments; tyloids on flagellar segments 7-15; hairs on flagellum short and erect; petiole length 1.5-1.7x width; abdomen more pubescent than in female.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, tegula, proepisternum, tip of pronotal lobe, subtegular ridge, upper end of mesepimeron, prepectus, longitudinal stripe on lower mesopleurum; legs as in female; yellow basal bands on abdominal segments 4, 5, and 6; rufous on apical margins of segments 2-7 and on epipleura. Black capillary lines often extend partly or entirely from antennal fossae to clypeus. Occasional specimens are blackened on the abdomen except for the basal yellow bands.

This species is recognizable by the shagreened and punctate mesoscutum, the longitudinal stripe on the mesopleurum, the black hind coxa, the rufous apex of the female abdomen, and the rugulose petiolar area of the propodeum.

Type: ♀, Laguna Amarga, Natales, Magallanes, Chile, Dec. 14-21, 1960, L. Peña (Townes).

Paratypes: 1♂, 2♀, Laguna Amarga, Natales, Magallanes, Chile, Dec. 11, 14-21, 1960, L. Peña (Townes). 2♂, La Peninsula, Magallanes, Chile, Dec. 11, 1960, T. Cehalovick (Townes). ♂, ♀, 35 km. south of Porvenir, Tierra del Fuego, Chile, Dec. 4-8, 1960, L. Peña (Townes). 3♂, 1♀, Rio Tres Pasos, Magallanes, Chile, Dec. 11, 1960, T. Cehalovick (Townes). ♂, Seno de Otway, Magallanes, Chile, Feb. 26, 1961 (Townes).

5. Homotropus ruficauda, new species

(Figure 17)

Female: 4.8 mm. (5.0 mm.); head shagreened, more polished on frons and gena, obscurely punctate on gena; occipital carina rounded; OOC 1.55x (1.4x) HO; face width 1.6x height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.8x (0.9x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 (21) flagellar segments; sense cones separated by more than the width of a cone, inconspicuous; hairs on flagellum short and inclined; thorax mostly polished, deeply and closely punctate on mesoscutum, more obscurely anteriorly and ventrally on mesopleurum, and on mesosternum; prepectal carina complete; mesosternal suture shallow; pleural carina strong; propodeum with weak lateral carina, shagreened on basal areas, more scabrous on petiolar area; areolet square, sessile, second intercubitus pigmented; nervulus distad of basal vein; nervellus broken slightly below middle; 2 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; setae lacking from external face of hind tibia; abdomen rounded dorsally, progressively narrowed from segment 3 to apex; petiole length 1.3x (1.5x) width, shagreened, margins slightly divergent behind spiracles; segment 2 slightly wider than long; abdomen shagreened and largely glabrous; epipleura distinct on segment 2 and basal 0.6 of 3.

Black. Yellow on median facial spot, clypeus, mandible, palpi, humeral bar, tegula, tip of pronotal lobe, tip of proepisternum, longitudinal stripe on lower mesopleurum, tip of mesepimeron; yellow on fore and middle coxae and trochanters; black on basal 0.7 of hind coxa, the lateral angles and apex yellow; black on first hind trochanter; femora and tibia mostly tawny-rufous except dusky at base and apex of hind tibia, dorsally on other tibiae, and on all tarsi; rufous on apical 0.4 of abdominal segment 2 and remaining segments to apex of abdomen; ovipositor sheath black.

Male: 4.3-4.4 mm.; face width 1.6-1.9x height; clypeus width 2.3-2.4x height; 20 flagellar segments; tyloids on flagellar segments 7-15; petiole length 1.6-1.7x width; abdominal pubescence light.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape, and pedicel ventrally, humeral bar, tegula, tip of pronotal lobe, proepisternum, prepectus, subtegular ridge, most of mesepimeron, wide stripe on lower mesopleurum; legs and abdomen as in female. The abdominal segments may be slightly infuscated basally and medially.

This species is recognizable by the polished and punctate mesoscutum, the red abdomen, and the color of the hind coxa and tibia.

Type: ♀, Tolhuaca, Malleco, Chile, Jan. 8-11, 1962, L. Peña (Townes).

Paratypes: 2♂, Bio-Bio, Salto del Abanico, Chile, Dec. 30, 1950, Ross & Michelbacher (San Francisco). ♀, Cherquenco, Cautin, Chile, March, 1954, L. Peña (Ottawa). ♀, Lago Galletue, Cordillera Lonquimay, Chile, Jan. 19-31, 1962, L. Peña (Townes). ♂, ♀, Liucura, Malleco, Chile, Jan. 1-9, 1959; at 1,800 m., Jan. 6-10, 1959, L. Peña (Ottawa).

6. Homotropus flavidus, new species

(Figure 18)

Female: 5.0 mm.; head shagreened, more polished on frons and gena, obscurely punctate on gena; occipital carina broadly rounded medially; OOC 1.6x HO; face width 1.75x height; clypeus separated from face by a weak crease, width 2.2x height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible weakly concave; 19 flagellar segments; sense cones separated by more than the width of a cone; hairs on flagellum very short and inclined; thorax largely polished, lightly shagreened on groove of pronotum, obscurely punctate on lower and anterior mesopleurum and on mesosternum; prepectal carina complete; mesosternal suture shallow; pleural carina strong; propodeum with irregular weak lateral carina, shagreened on basal areas, more rugulose on petiolar area; areolet large, rectangular, sessile, second intercubitus unpigmented; nervulus opposite basal vein; nervellus broken below middle; 2 hamuli on costellan fold; legs slender; coxae and femora weakly shagreened and obscurely punctate; setae lacking on external face of hind tibia; abdomen rounded dorsally, progressively narrowed from base of segment 3 to apex, weakly compressed at apex; petiole length 1.4x width, shagreened, margins slightly divergent behind spiracles; segment 2 wider than long; abdomen shagreened, progressively more polished apically; epipleura distinct on segments 2 and 3; spiracles dorsad of sutures; abdomen largely glabrous.

Black. Cream on clypeus, mandible, palpi with apical segments infuscated, small humeral bar, tegula, lateral stripes on scutellum, lateral edge of proepisternum, tip of pronotal lobe, subtegular ridge, mesepimeron, small spot on posterior lower mesopleurum; legs mostly cream; black at bases of fore and middle coxae, internally and anteriorly and a posterior spot on hind coxa, first trochanters, a dorsal and ventral stripe on each femur, a dorsal stripe on each tibia and tarsus; tarsi more dusky; yellow at apex of petiole, basally and laterally on segments 2-6, rufous on remainder of these segments except for three black spots on each side of terga 2-6.

Male: 4.3-4.7 mm.; face width 2.0x height; clypeus width 2.4x height, apical lobes nearly lacking, median emargination very shallow; depression between tentorial pits rather deep; malar space 0.8-0.9x basal width of mandible; OOC 1.75x HO; 19 flagellar segments; tyloids on flagellar segments 7-15; petiole length 1.4-1.6x width.

Black. Yellow on narrow inner orbital bar on lower 0.5 of eye, apical 0.5 of clypeus, mandible, palpi, small spot under each wing and sometimes on lower mesopleurum; legs similar to female or the hind coxa entirely black, and the fuscous stripes broader than in the female; abdomen as in female, but the yellow areas somewhat dusky.

This species is distinctive in its polished mesoscutum, the narrow male clypeus, and the color of the legs and abdomen.

Type: ♀, Isla Navarino, "P. Williams", Magallanes, Chile, Feb. 5, 1957, T. Cehalovick (Townes).

Paratypes: 2♂, Monte Fenton, Chile, Jan. 9, 1952, L. Peña (Ottawa).

7. Homotropus limbatus, new species

(Figure 19)

Female: 5.4 mm. (5.1 mm.); head shagreened, more polished on gena, finely punctate on face and gena; occipital carina rounded medially; OOC 1.6x HO; face width 2.1x (2.0x) height; clypeus separated from face by a strong crease, width 2.1x (2.3x) height, apical lobes rounded with a moderate median emargination, only weakly impressed apically, mostly polished; malar space 0.6x (0.7x) basal width of mandible; upper tooth of mandible very shallowly notched; 19 (18) flagellar segments; sense cones separated by about the width of a cone, inconspicuous; mesoscutum polished, punctate anteriorly and before scutellum, rest of thorax mixed shagreened and punctate, polished around speculum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum with weak basal and lateral carinae, shagreened basally, more rugulose on petiolar area; areolet square, sessile (or short petiolate), second intercubitus pigmented; nervulus distad of basal vein; nervellus broken below middle; 3 hamuli on costellan fold; legs slender; coxae and femora weakly shagreened and obscurely punctate; few setae on external face of hind tibia; abdomen rounded dorsally, progressively narrowed from base of segment 4 to apex; petiole length 1.4x width, shagreened, more scabrous behind spiracle; segment 2 slightly wider than long; abdomen shagreened, more polished from segment 4 to apex, mostly glabrous; epipleura distinct on segment 2 and basal 0.5 of 3; spiracles dorsad of sutures.

Black. Yellow on small facial spot, malar space, clypeus, mandible, palpi somewhat dusky; yellow on recurved humeral bar, tegula, tip of pronotal lobe, spot under each wing; legs yellow on coxae except black on basal 0.7 of hind coxa; yellow on trochanters and anteriorly on femora, ventrally on all tibiae; dusky on tibiae dorsally and on tarsi; remainder of legs tawny-rufous; abdomen rufous behind apical 0.3 of segment 3 to apex of abdomen, yellow along lateral margins of segments 2 to apex and on all epipleura. The humeral bars are frequently not recurved. The rufous portions of the abdomen may be variously infuscated. The medial facial spot may be lacking.

Male: 5.6-5.8 mm.; face width 2.2-2.3x height; clypeus width 2.1-2.4x height; malar space 0.7-0.8x basal width of mandible; OOC 1.3-1.45x HO; 20 flagellar segments; tyloids on flagellar segments 7-14; petiole length 1.4-1.5x width; abdomen finely pubescent.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally; thorax as in female, occasionally a small yellow spot or stripe on lower posterior mesopleurum; legs and abdomen as in female; the rufous of the abdomen may be largely infuscated. Occasionally black capillary lines extend from the antennae to the clypeus.

This species is recognizable by the polished mesoscutum with its punctation anteriorly and posteriorly, the yellow malar space of the female, the rufous and yellow color pattern of the abdomen, and the occasionally recurved humeral bars.

Type: ♀, Laguna Dam, Coquimbo Province, Chile, at 8,000 ft., Dec. 6, 1950, Ross & Michelbacher (San Francisco).

Paratypes: 3♂, 4♀, Belen, Tarapaca, Chile, at 3,340 m., Oct. 17, 25, and Nov. 19, 1952, L. Peña (Ottawa). ♂, Hda Illapel, Coquimbo, Chile, Nov. 1, 1954, L. Peña (Ottawa). 4♂, 20♀, Laguna Dam, Coquimbo Prov., Chile, at 8,000 ft., Dec. 5 and 6, 1950, Ross & Michelbacher (San Francisco). ♂, 5 miles north of Laguna Dam, Coquimbo Prov., Chile, at 8,000 ft., Dec. 6, 1950, Ross & Michelbacher (San Francisco). ♀, Las Condes, Santiago, Chile, Oct. 1953, L. Peña (Ottawa). ♂, Portezuelo Tres Cruces, Coquimbo Prov., Chile, at 1,900 m., Oct. 30, 1957, L. Peña (Townes).

8. Homotropus comptus, new species.

(Figures 20 and 54)

Female: 6.5 mm.; head shagreened and finely punctate; occipital carina broadly rounded; OOC 1.45x HO; vertex shallowly sulcate medially; face width 2.3x height; clypeus separated from face by a very weak crease, width 2.1x height, apical lobes rounded with a moderate median emargination, shallowly impressed along apical margin, polished; malar space 0.9x basal width of mandible; upper and lower teeth of mandible broadly truncate; 19 flagellar segments; sense cones separated by about the width of a sense cone, inconspicuous; hairs on flagellum forming a short silvery pile; mesoscutum polished and finely punctate except in a medial and a lateral glabrous area; rest of thorax lightly shagreened and abundantly but finely punctate; prepectal carina complete; mesosternal suture shallow; sternaulus rather deep; pleural carina well defined; propodeum with low lateral carina, shagreened, slightly more rugulose on petiolar area, spiracle with conspicuous raised lip; areolet small, long petiolate; nervulus distad of basal vein; nervellus broken well below middle; discoidella rather weak; 2 hamuli on costellan fold; legs rather stout; polished and obscurely punctate on coxae and femora; few setae on external face of hind tibia; abdomen stout, rounded dorsally, progressively narrowed from base of segment 3 to apex; petiole broad, length 1.1x width, shagreened, with a strong lateral carina from spiracle to apex; segment 2 broad, width 1.8x length; rest of abdomen shagreened and mostly glabrous, more polished towards apex; epipleura distinct on segments 2 and 3; spiracles dorsad of lateral sutures.

Black. Yellow on median facial spot, malar space and lower inner orbit, clypeus except for basal black spot and mandible; palpi somewhat dusky; yellow on long recurved humeral bar, tegula, tip of proepisternum, tip of pronotal lobe, prepectus, subtegular ridge, upper end of mesepimeron, and longitudinal stripe on lower mesopleurum; legs black on bases of fore and middle coxae, basal 0.7 of hind coxa except for angles, first hind trochanter, posterior stripes on fore and middle femora, dorsal stripes on fore and middle tibiae, anterior and posterior stripes on hind femur, dorsal stripe and basal and apical bands on hind tibia, all tarsi; remainder of legs mostly yellow; rufous on narrow apical triangle on abdominal segment 2, and all of remaining segments posteriorly; more yellow on lower inflexed and ventral surfaces.

The paratype from Peru has the apical abdominal segments slightly infuscated basally and laterally, the hind femur more rufous, and the prepectus black.

Male: 4.9-5.0 mm.; face width 2.15x height, margins divergent ventrally; clypeus width 2.1-2.25x height; malar space 0.75-0.9x basal width of mandible; OOC 1.8x HO; 19 flagellar segments; tyloids on flagellar segments 6-15; petiole length 1.4-1.5x width.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, scape and pedicel ventrally; thorax and legs as in female; the scutellum may have a median transverse yellow stripe; abdomen as in female, but apically and sometimes laterally infuscated; the apical margins of segments 2-7 are narrowly banded with yellow.

This species is recognizable by the largely polished mesoscutum, the broadly truncate teeth of the mandible, the conspicuous raised margin of the propodeal spiracle, the broad petiole and second abdominal segment of the female, and the color of the face, legs, humeral bars, and abdomen.

Type: ♀, Lago Argentina, Province Santa Cruz, Puerto Bandera, Argentina, Jan. 26, 1962, T. Cehalovick (Townes).

Paratypes: 2♂, Liucura, Malleco, Chile, Jan. 1-9, 1959, L. Peña (Ottawa). ♀, La Huerta, Peru, 3,800 m., Nov. 24, 1955, L. Peña (Ottawa).

9. Homotropus cuneatus, new species

(Figures 21 and 55)

Female: Unknown.

Male: 5.1 mm. (3.9 mm.); head shagreened, obscurely punctate on gena; vertex sloping abruptly to occipital carina from behind ocelli; occipital carina transverse medially; OOC 1.5x HO; face width 1.6x (1.7x) height; clypeus separated from face by a weak crease, width 2.3x (2.1x) height, truncate apically, median emargination nearly lacking, impressed along apical margin, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible very shallowly concave; 20 (21) flagellar segments; tyloids on flagellar segments 7-14 (15); sense cones abundant, separated by the width of a cone; hairs on flagellum short and erect ventrally, inclined dorsally; thorax polished, some light shagreen laterally and posteriorly on mesoscutum, on pronotum, low on mesopleurum and mesosternum, finely punctate medially on mesoscutum, on mesopleurum except for speculum, and on mesosternum; prepectal carina complete; mesosternal suture shallow; pleural carina strong; propodeum with lateral carina, basal area lightly shagreened, petiolar and lateral areas weakly rugulose; areolet square, sessile, second intercubitus pigmented; nervulus distad of basal vein; nervellus broken slightly below middle; 3 hamuli on costellan fold; legs slender; coxae and femora lightly shagreened and obscurely punctate; no setae on external face of hind tibia; abdomen rather broad, progressively narrowed from segment 5 to apex; petiole length 1.7x (1.45x) width, shagreened, weakly rugulose laterally, a lateral carina from spiracle to apex; segment 2 much wider than long, shagreened, striate basally and laterally; remaining segments mostly shagreened and lightly punctate, more polished apically; epipleura distinct on segment 2 and basal 0.7 of 3; spiracles of segments 2 and 3 dorsad of sutures; abdomen with abundant short pubescence.

Black. Yellow on broad inner orbit from level of antenna to clypeus, clypeus, mandible, palpi, humeral bar, tegula, tip of mesepimeron; black on bases of fore and middle coxae, all of hind coxa, all first trochanters; yellow on rest of coxae and trochanters; tawny ventrally on hind tibia; rest of legs

mostly rufous; dusky at bases of fore and middle femora, basal $0.6\pm$ (or most) of hind femur, dorsally and apically on hind tibia, hind tarsus. Sometimes a yellow spot is present on the middle of the face.

This species is recognizable in the male by the yellow inner orbits, the truncate clypeus, the presence of an areolet, the sculpturing of the thorax, the color of the legs, and the black abdomen.

Type: ♂, Funza, Cundimarca, Columbia, Nov. 24, 1955, E. C. Maiz (Townes).

Paratypes: 2♂, Bogota, Cundimarca, Malezas, Columbia, Nov. 9, 1954, M. Revelo (Townes). ♂, Funza, Cundimarca, Columbia, Nov. 24, 1955, E. Maiz (Townes). 2♂, Lago Surucucho, 11 miles west of Cuenca, Ecuador, Feb. 16, 1955, E. Schlinger & E. Ross (San Francisco). ♂, Pass on Pacific-Atlantic Divide, Estado Trujillo, Venezuela, at 8,000-9,000 ft., Sept. 15, 1957, Malkin (San Francisco).

10. Homotropus maculifrons Cresson

(Figure 22)

Bassus maculifrons Cresson, 1865. Proc. Ent. Soc. Phila. 4:272. ♀. Type: ♀, California (Philadelphia).

Bassus semifasciatus Walsh, 1873. Trans. Acad. Sci. St. Louis 3:87. ♂.

Type: ♂, ?Illinois (destroyed).

Biology: Kamal, 1926. Jour. Econ. Ent. 19:722, 727. - Kamal, 1939. Tech. Scient. Serv. Bul. Min. Agr. Egypt 207:12, 14-21, 46-47, 49-50, 52, 54, 57, fig. 11-27, 86, 93.

Female: 5.8-7.8 mm.; head weakly inflated on gena, dull shagreened, more polished on gena, strongly punctate on face and vertex, obscurely punctate on gena; OOC 1.6-1.75x HO; face width 2.2-2.7x height; clypeus separated from face by a definite suture, width 2.1-2.2x height, apical lobes rounded with a shallow median emargination, weakly impressed laterally on apical lobes, polished; malar space 0.4-0.7x basal width of mandible; upper tooth of mandible bidentate; 19-21, rarely 18 or 22 flagellar segments, first segment length 4.1-4.5x width; sense cones closer together than the width of a cone, abundant on segment one, inconspicuous; flagellum covered with short erect hairs; thorax polished, deeply and closely punctate; prepectal carina incomplete ventrally; pleural carina low; propodeum lacking carinae, evenly shagreened and punctate basally, rough shagreened on petiolar area; wing lacking areolet, or rarely present; 2-5 hamuli on costellan fold; legs slender; coxae and femora polished and obscurely punctate; numerous strong setae on external face of hind tibia; hind tibia weakly compressed apically; abdomen progressively narrowed from base of segment 3 to apex of abdomen; petiole stout rectangular, length 1.3-1.5x width, shagreened, weakly scabrous laterally; segment 2 wider than long, shagreened, polished apically; rest of abdomen polished, very faintly shagreened; abdomen sparsely pubescent; epipleura distinct on segment 2 and base of 3, inflexed; spiracle of 3 ventrad of suture.

Black. Bright yellow on clypeus, mandible, palpi, round median facial spot, curved band from clypeus to eye, recurved humeral bar, tegula, tip of pronotal lobe, spot under fore wing, mesepimeron, and most of scutellum and postscutellum; legs largely rufous; yellow on fore coxa except black at base;

fuscous at apex of hind tibia and all of hind tarsus; yellow on large spots at posterior corners of abdominal segments 2-6 and ventrally on intersegmental membranes.

Male: 4.9-7.1 mm.; OOC 1.4-1.8x HO; face width 2.2x height; 20-22, rarely 19 flagellar segments; tyloids variable, on segments 5 or 6-15, 16, 17, or 18; petiole length 1.5-1.6x width; abdomen more pubescent than in female.

Black. Yellow on clypeus, mandible, palpi, face, malar space, inner orbit, scape and pedicel ventrally, long recurved humeral bar, tegula, scutellum, postscutellum, proepisternum, large spot at apex of pronotal lobe, spot under fore wing, mesepimeron, prepectus, and a longitudinal stripe low on mesopleurum; legs as in female, but paler on fore and middle legs; yellow on fore and middle coxae and trochanters; large cream spots at apical corners of abdominal segments 2-6, and all of inflexed surface.

Specimen: ♂, Rosarito Beach, Baja California, Mexico, April 2, 1939, C. Michener (San Francisco).

This species is distributed in the Canadian, Transition, and Upper Sonoran faunas of western North America, and is also reported from Hawaii.

11. Homotropus preclarus, new species

(Figure 23)

Female: 6.7 mm.; head shagreened and obscurely punctate; occipital carina rounded; OOC 2.0x HO; face width 2.1x height; clypeus separated from face by a weak crease, width 1.8x height, apical lobes rounded with a moderate median emargination, shagreened; malar space 1.0x basal width of mandible; upper tooth of mandible broad, shallowly concave; 23 flagellar segments; sense cones abundant, closer together than the width of a cone; hairs of flagellum forming a low dense pile; thorax polished, lightly shagreened on pronotum, finely punctate anteriorly on mesoscutum, anteriorly and ventrally on mesopleurum and on mesosternum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum lacking carinae, mostly polished, petiolar face abruptly vertical, a series of fine carinulae around petiolar area; areolet lacking; nervulus opposite basal vein; nervellus broken far below middle; 3 hamuli on costellan fold; legs stout, hind tibia compressed, coxae and femora lightly shagreened and finely punctate; no spines on external face of hind tibia; abdomen broad, widest at apex of segment 3, then progressively narrowed to apex; petiole length 1.7x width, mostly polished, striate except medially at apex, spiracle prominent at middle of segment; segment 2 much wider than long, deeply striate on basal 0.5±; remainder of abdomen polished and glabrous; epipleura distinct on segment 2 and basal 0.5 of 3; spiracles dorsad of sutures.

Black. Cream on face, inner orbit, malar space, clypeus, mandible, and scape ventrally; palpi fuscous; cream on humeral bar recurved to scutellum, lateral band on scutellum continuing the humeral bar, postscutellum, anterior 0.5± of tegula, laterally on proepisternum, tip of pronotal lobe, prepectus, subtegular ridge, mesepimeron, short longitudinal stripe on lower mesopleurum; black on posterior portion of tegula and on axillary sclerites; legs mostly black, cream on apical 0.8 of fore coxa, apical 0.4 of middle coxa, ventrally on fore femur, medially on fore tibia, apex of middle femur, medially on middle and hind tibiae.

Male: 6.6 mm.; face width 1.9x height; clypeus width 1.6x height; malar space 1.1x basal width of mandible; OOC 1.5x HO; 22 flagellar segments; tyloids lacking; petiole length 1.85x width.

Coloring as in female, except for more cream on proepisternum, a wider stripe on the mesopleurum, and a white longitudinal band on the middle femur anteriorly.

This species is recognizable by the absence of tyloids in the male, the closely placed sense cones of the female flagellum, the cream face of the female, the extensive cream and black markings of the thorax and legs, the striations of abdominal segments 1 and 2, and the location of the petiolar spiracle at the median point of the segment.

Type: ♀, Jalapa, Veracruz, Mexico, Aug. 1-6, 1961, R. & K. Dreisbach (Townes).

Paratype: ♂, Jalapa, Veracruz, Mexico, Sept. 28-Oct. 3, 1961, R. & K. Dreisbach (Dreisbach).

12. Homotropus mexicanus, new species

(Figures 24 and 57)

Female: 5.0 mm.; head shiny shagreened, obscurely punctate on gena; occipital carina rounded; OOC 1.4x HO; face width 2.35x height; clypeus separated from face by a weak crease, width 1.9x height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.85x basal width of mandible; upper tooth of mandible very shallowly concave; 18 flagellar segments; sense cones separated by the width of a cone, inconspicuous; hairs on flagellum short and inclined; thorax shiny shagreened and largely impunctate, polished on speculum; prepectal carina incomplete ventrally; mesosternal suture shallow; pleural carina largely lacking; propodeum evenly shagreened, polished low on petiolar area; areolet lacking; nervulus distad of basal vein; nervellus broken below middle; 4 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; setae lacking from external face of hind tibia; abdomen narrowed from base of segment 3, rather strongly compressed from segment 5 to apex; petiole length 1.5x width, shiny shagreened, lateral carina from spiracle to apex; segment 2 slightly wider than long, shiny shagreened; remainder of abdomen shiny shagreened; epipleura distinct on segment 2 and basal 0.3 of 3; spiracle of segment 2 dorsad of suture, of segment 3 posterior to end of suture; abdomen almost glabrous.

Black. Yellow on wide inner orbit reaching clypeus and malar space, clypeus, mandible, palpi, humeral bar, anterior corners of scutellum, tegula, tip of pronotal lobe, tip of proepisternum, prepectus, subtegular ridge, longitudinal stripe on lower mesopleurum, mesepimeron; legs mostly rufous, yellow on fore and middle coxae and apical 0.5 of hind coxa, and all trochanters; black on basal 0.5 of hind coxa; fuscous dorsally and apically on hind tibia, hind tarsus; rufous on basal 0.5± of abdominal segments 2, 3, 4, and 5, apical margins of 2-5, lateral basal and apical spots on 6-8, ventral surface.

Male: Unknown.

This species is recognizable by the shape of the clypeus, the color of the face, the wide face, the absence of the areolet, the even shagreening of the body, the incomplete prepectal carina, the color of the abdomen, and the compressed abdomen.

Type: ♀, Desierto de los Leones, Distrito Federal, Mexico, at 2,900 m., Oct. 13, 1962, H. & M. Townes (Townes).

13. Homotropus interstinctus, new species

(Figure 25)

Female: 5.7 mm. (5.3 mm.); head evenly shagreened and impunctate; occipital carina broadly rounded medially; OOC 1.0x HO; face width 1.75x height; clypeus separated from face by a weak crease, width 1.7x (1.9x) height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.6x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 flagellar segments; sense cones separated by more than the width of a cone, inconspicuous; hairs on flagellum short and inclined; thorax evenly shagreened, more polished on speculum; prepectal carina complete; mesosternal suture shallow; pleural carina largely lacking; propodeum evenly shagreened; areolet small, petiolate, second intercubitus partially pigmented; nervulus distad of basal vein; nervellus broken below middle; 2 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; few setae on external face of hind tibia; abdomen progressively narrowed from base of segment 3, moderately compressed at apex; petiole length 1.2x (1.4x) width, shagreened, finely striate laterally, margins divergent behind spiracles; segment 2 wider than long; abdomen evenly shagreened; epipleura distinct on segment 2 and base of 3; spiracle of segment 2 dorsad of suture, of 3 posterior to end of suture; abdomen mostly glabrous.

Black. Pale yellow on middle of face from clypeus to antennal fossae, malar space, clypeus, mandible, scape and pedicel ventrally; palpi more dusky; pale yellow on humeral bar, tegula, lateral margins of scutellum, tip of pronotal lobe, dorsal spot on prepectus, subtegular ridge, wide stripe posteriorly on lower mesopleurum, mesepimeron; legs cream on fore and middle coxae, all trochanters, annulus on medial 0.3± of hind tibia; rufous on rest of fore and middle legs and hind femur; black on hind coxa, basal and apical 0.3± of hind tibia, and all of hind tarsus; rufous on apical 0.5 of abdominal segment 2, all of remaining segments except for small fuscous blotches ventro-laterally on segments 3, 4, and 5. The abdominal segments may be largely infuscated, with the rufous evident only at the base, apex, and laterally on the segments.

Male: 5.2-5.4 mm.; face width 1.7x height; clypeus width 2.1x height; malar space 0.7x basal width of mandible; OOC 0.9x HO; 20 flagellar segments; tyloids on flagellar segments 8-13; sense cones abundant, separated by the width of a cone; hairs of flagellum short and erect; petiole length 1.7x width.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, tegula, lateral margins of scutellum, posterior 0.6± of pronotal lobe, proepisternum, prepectus, subtegular ridge, lower 0.5± of mesopleurum, most of mesosternum, mesepimeron; legs as in female, except hind coxa cream with posterior black vertical stripe; cream spot at basal corner of abdominal segment 2 and bands at base of each of segments 3, 4, and 5, and on ventral surface. The metapleurum may also be cream.

This species is recognizable by the even shagreening of the entire body, the black and white banded hind tibia, the male tyloids on flagellar segments 8-13, the presence of the areolet, and the color of the female abdomen.

Type: ♀, Nova Teutonia, Santa Catarina, Brazil, March 21, 1948, F. Plaumann (Townes).

Paratypes: 2♂, 1♀, Nova Teutonia, Santa Catarina, Brazil, May 22, 1948, and June 18, 1946, F. Plaumann (Townes). ♂, ♀, Nova Teutonia, 27° 11' S., 52° 23' W., Brazil, at 300-500 m., Sept. 2 and 3, 1948, F. Plaumann (Ottawa).

14. Homotropus pacificus Cresson

(Figure 26)

Bassus maculifrons Holmgren, 1868. *Eugenies Resa*, *Insecta* p. 410. ♀.

Type: ♀, San Francisco, Calif. (Stockholm). Name preoccupied by Cresson, 1865.

Bassus pacificus Cresson, 1878. *Proc. Acad. Nat. Sci. Phila.* 1878:376. ♀.

Type: ♀, California (Philadelphia).

Bassus xanthopsis Ashmead, 1890. *Proc. U. S. Natl. Mus.* 12:440. ♂.

Type: ♂, reared from syrphid, Alameda, Calif. (Washington).

Biology: Kamal, 1926. *Jour. Econ. Ent.* 19:727. - Kamal, 1939. *Tech.*

Scient. Serv. Bul. Min. Agr. Egypt 207:21-23, 46-47, fig. 28-32 and 95.

Female: 4.4-5.0 mm.; head shiny shagreened, more polished and obscurely punctate on gena; OOC 1.4-1.7x HO; face width 1.7-1.9x height; clypeus separated from face by a weak crease, width 1.9-2.1x height, apical lobes rounded with a moderate median emargination, strongly impressed laterally on apical lobes, shiny shagreened; malar space 0.8-0.9x basal width of mandible; upper tooth of mandible subtruncate; 18-19, rarely 20 flagellar segments, first segment length 4.2-4.8x width; flagellum covered with short inclined hairs; thorax shiny shagreened, polished dorsally on mesopleurum, all obscurely punctate; pleural carina partially lacking; propodeum bearing irregular lateral carina, basal area evenly shagreened, petiolar area roughly shagreened; wing lacking areolet; 2 hamuli on costellan fold; legs slender; coxae and femora lightly shagreened and obscurely punctate; a few setae on external face of hind tibia; abdomen progressively narrowed from base of segment 4 to apex of abdomen, either strongly arched or compressed at apex; petiole short rectangular, length 1.4-1.5x width, evenly shagreened, dorsal carinae present only near base; segment 2 nearly as wide as long, weakly striate at base, rest shagreened, polished at apex; remainder of abdomen progressively more polished apically; abdomen lightly pubescent; epipleura distinct on segment 2 and basal 0.3 of 3, inflexed; spiracle posterior to end of suture on segment 3.

Black. Bright yellow on clypeus, mandible, palpi, round spot on face, humeral bar, tegula, tip of pronotal lobe, spot under each wing; legs black on hind coxa and first trochanter, bases of fore and middle coxae; yellow on rest of fore and middle coxae, rest of trochanters; rufous on rest of legs; dusky at apex of hind tibia and all of hind tarsus; rufous on apex of abdominal segment 2 and most of 3, inflexed margins of 2 and 3, ventrally on 1-4. The abdominal color is variable, the rufous sometimes occurring on all or part of segments 2-4, but often restricted to the base of segment 3.

Male: 4.0-5.4 mm.; OOC 1.4-1.6x HO; face width 1.9-2.0x height; 19-20, rarely 18 or 21 flagellar segments; tyloids on segments 7-14 or 15; hairs of flagellum short and erect; abdomen rounded above, parallel margined, gradually narrowed apically; petiole length 1.5-1.7x width; abdomen more abundantly pubescent than in female.

Black. Yellow on clypeus, mandible, palpi, face, malar space, inner orbit, scape and pedicel ventrally, humeral bar, tegula, tip of pronotal lobe, tip of proepisternum, spot under fore wing, mesepimeron, prepectus, longitudinal stripe low on mesopleurum; legs black on most of hind coxa; pale yellow at apex and angles of hind coxa, fore and middle coxae, all trochanters; tawny on rest of fore and middle legs, hind tibia ventrally; rufous on hind femur; dusky dorsally and apically on hind tibia, all of hind tarsus; rufous on apex of abdominal segment 2, all of 3 and 4; yellow at bases of segments 3-6, and on inflexed and ventral surfaces. The abdomen may have the rufous restricted to the apical edges of segments 2-4, with yellow basal bands on 3-6.

Specimens: ♀, 5 miles northeast of Encantada, Baja California, Mexico, at 9,000 ft., May 31, 1958, J. Powell (Albany, Calif.). ♀, Enseñada, Baja California, Mexico, June, 1952 (San Francisco). ♂, Jalapa, Veracruz, Mexico, Aug. 1-6, 1961, R. & K. Dreisbach (Dreisbach). 2♂, 55.5 km. west of Mexico City, Mexico, Oct. 24, 1962, H. & M. Townes (Townes). ♂, 10 miles west of Orizaba, Mexico, Dec. 31, 1940, G. Bohart (San Francisco). 3♀, Sierra San Pedro Martir, La Grulla, Baja California, Mexico, at 6,500 ft., May 28, 1958, J. Powell (Albany, Calif.).

This species occurs in Mexico and is widely distributed in the Canadian and Transition zones of western North America.

15. Homotropus calvus, new species

(Figures 27 and 58)

Female: Unknown.

Male: 4.7 mm.; head shagreened; occipital carina rounded; OOC 1.6x HO; face width 1.5x height; clypeus separated from face by a weak crease, width 2.2x height, apical lobes rounded with a very weak median emargination, impressed along apical margin, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible very shallowly concave; 22 flagellar segments; tyloids on flagellar segments 7-10; sense cones separated by more than the width of a cone, inconspicuous; hairs on flagellum short and erect; flagellar segments long and slender, antenna longer than fore wing; thorax polished and nearly impunctate; prepectal carina complete; mesosternal suture shallow; pleural carina strong; propodeum evenly shagreened; areolet square, sessile, second intercubitus unpigmented; nervulus opposite basal vein; nervellus broken far below middle; 2 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; setae lacking on external face of hind tibia; abdomen slender, gradually tapered behind segment 4; petiole length 1.8x width, shagreened with a few weak longitudinal striae, a lateral carina from spiracle to apex; segment 2 wider than long, shagreened; remainder of abdomen shagreened, progressively more polished apically; epipleura distinct on segments 2, 3, and base of 4; spiracles dorsad of sutures; pubescence of abdomen short and sparse, heavier at apex.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally, humeral bar, tegula, tip of pronotal lobe,

subtegular ridge, ventral spots on prepectus, upper 0.5 of mesepimeron; black on basal 0.5 of hind coxa and on first hind trochanter; yellow on remainder of coxae and trochanters; tawny-rufous on rest of legs; dusky on ventral stripe on fore femur, dorsal stripe on fore tibia, dorsally on fore tarsus, dorsal stripes on middle femur, tibia, and tarsus, dorsally and basally on hind femur, dorsal stripe and apically on hind tibia, and hind tarsus; yellow on apical margins of abdominal segments 2-6, basal bands on segments 3-5, on epipleura, and ventrally.

This species may be recognized by the small number of male tyloids, the polished thorax, the presence of an areolet, the long flagellum, and the evenly shagreened propodeum and abdomen.

Type: ♂, Km. 185.5, Tuxtepec-Oaxaca Rd., Oaxaca, Mexico, at 2,200 m., Oct. 22, 1962, H. & M. Townes (Townes).

16. Homotropus chilensis, new species

(Figure 28)

Female: 4.8 mm. (4.6 mm.); head shagreened, more polished on frons and gena, obscurely punctate on gena; occipital carina rounded medially; OOC 1.55x HO; face width 1.6x height; clypeus separated from face by a weak crease, width 1.8x (1.6x) height, apical lobes weakly rounded with a very shallow median emargination, impressed along apical margin, shagreened; malar space 0.8x basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 (19) flagellar segments; sense cones separated by more than the width of a cone, inconspicuous; hairs on flagellum short and inclined; thorax partly polished, lightly shagreened on medial band on mesoscutum, on pronotum, low on mesopleurum, and on metapleurum, finely punctate laterally and anteriorly on mesoscutum, anteriorly and ventrally on mesopleurum; prepectal carina complete; mesosternal suture shallow; pleural carina strong; propodeum lacking carinae, shagreened basally, more rugulose laterally and on petiolar area; areolet square, sessile, second intercubitus pigmented; nervulus opposite basal vein; nervellus broken below middle; 2 hamuli on costellan fold; legs slender; coxae and femora lightly shagreened and obscurely punctate; few setae on external face of hind tibia; abdomen rounded dorsally, progressively narrowed from segment 4 to apex; petiole length 1.6x width, shagreened, finely striate laterally; segment 2 slightly wider than long, shagreened and weakly striate basally and laterally; remainder of abdomen shagreened, more polished apically; epipleura distinct on segment 2 and basal 0.5 of 3; spiracles dorsad of sutures.

Black. Yellow on clypeus, mandible, palpi, humeral bar, tegula, tip of pronotal lobe, spots at bases of fore and hind wings, longitudinal stripe on lower mesopleurum; legs tawny-rufous; yellow on fore and middle coxae, posteriorly and apically on hind coxa and all trochanters; black at base, anteriorly, and mesally on hind coxa.

Male: 4.4-5.3 mm.; face width 1.7-1.8x height; clypeus width 2.0-2.2x height; malar space 0.9-1.1x basal width of mandible; 20-21 flagellar segments; tyloids on flagellar segments 7-14 (16); hairs on flagellum short and erect; petiole length 1.7-1.9x width.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, scape and pedicel ventrally; flagellum tawny ventrally; yellow on humeral bar, tegula, proepisternum, posterior 0.5± of pronotal lobe, pre-

pectus, lower 0.5 of mesopleurum, mesosternum, subtegular ridge, tip of mesepimeron; legs as in female, but hind coxa yellow, or black reduced to base; yellow on basal bands on segments 3, 4, 5, and 6, sometimes a median line on 2, 3, and 4. Occasionally the apical margin of segments 6 and 7 are yellow.

This species is recognizable by the narrow lobes of the clypeus, the pattern of the mesoscutal sculpturing, the presence of the areolet, and the color of the legs and abdomen.

Type: ♀, Santiago, Chile, 1943, E. Herrera (Townes).

Paratypes: 2♂, Bahia Municiones, Magallanes, Chile, Dec. 10, 1960, L. Peña (Townes). ♀, Dalcahue, Chiloe Island, Chile, Jan. 17-Feb. 14, 1962, L. Peña (Townes). ♂, Laguna Amargo, Natales, Magallanes, Chile, Dec. 14-21, 1960, L. Peña (Townes). 2♂, 1♀, Santiago, Chile, 1943, E. Herrera (Townes). ♂, Santiago, Chile, Oct. 28, 1951, L. Peña (Ottawa). 2♂, Valparaiso, Chile, Oct. 15, 1900, P. Herbst (Cambridge).

17. Homotropus dolichus, new species

(Figures 29 and 56)

Female: 7.6 mm.; head shiny shagreened; occipital carina narrowly rounded medially; vertex impressed medially; OOC 1.4x HO; face width 1.55x height; clypeus separated from face by a shallow crease, width 1.6x height, apical margin truncate, lacking median emargination, shagreened; malar space 1.0x basal width of mandible; upper tooth of mandible very shallowly concave; 21 flagellar segments, segments very slender, first segment length 8.3x width; sense cones separated by more than the width of a cone; hairs of flagellum short and inclined; thorax very narrow, length 2.25x width of mesoscutum; polished on mesoscutum with a very faint shagreen; more evidently shagreened over rest of thorax; prepectal carina complete; mesosternal suture shallow; pleural carina lacking; propodeum evenly shagreened; areolet lacking; nervellus distad of basal vein; nervellus broken above middle; 3 hamuli on costellan fold; legs slender; coxae and femora evenly shagreened; setae lacking from external face of hind tibia; petiole long and slender, compressed from base of segment 2, strongly compressed from 3 to apex; petiole length 2.0x width, evenly shagreened, margins parallel behind spiracles; remainder of abdomen mostly polished and glabrous; epipleura distinct on segments 2 and 3; spiracles dorsad of sutures.

Black. Dusky rufous on edge of mandible, maxillary palpus, and antenna; labial palpus more tawny; rufous on tegula, scutellum, postscutellum, mesopleurum, mesosternum, prepectus, metapleurum, and propodeum; legs mostly rufous; more dusky on middle tarsus, hind first trochanter, femur, tibia, and tarsus; rufous on apical 0.7 of petiole, segment 2 except at base, apical 0.5 of 3, laterally and ventrally on 4 and 5.

Male: Unknown.

This species is distinguishable by the clypeal shape, the elongate first flagellar segment, the polished mesoscutum, the slender thorax, the lack of the areolet, the rufous markings of the thorax, and the strongly compressed abdomen.

Type: ♀, Nova Teutonia, Santa Catarina, Brazil, Aug. 19, 1952, F. Plaumann (Townes).

18. Homotropus macrogaster, new species

(Figure 30)

Female: 5.9 mm. (6.9 mm.); head shagreened; occipital carina rounded; frons medially sulcate anterior to fore ocellus; OOC 1.75x HO; face width 1.8x (2.0x) height; clypeus separated from face by a shallow crease, width 2.0x height, apical lobes rounded with a moderate median emargination, impressed along apical margin, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible obliquely subtruncate; 19 flagellar segments; sense cones slender, separated by about the width of a cone, conspicuous; hairs on flagellum short and inclined; thorax mostly polished, some shagreen on posterior mesoscutum, lower mesopleurum, and on pronotum, closely and deeply punctate on mesoscutum, more finely on lower mesopleurum and mesosternum; propodeum with partial weak lateral carina, shagreened dorsally and on petiolar area, more scabrous laterally; areolet square, second intercubitus pigmented; nervulus opposite basal vein; nervellus broken below middle; ramellus present; 3 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; no setae on external face of hind tibia; abdomen long and slender, length equal to fore wing length, compressed at apex; apical margins of terga transverse or convex; petiole length 1.55x width, shagreened, margins slightly convergent posteriorly; segment 2 length 1.4x width; segment 3 slightly longer than wide; abdomen shagreened and almost glabrous; epipleura distinct on segment 2 and basal 0.4 of 3; spiracles dorsad of sutures.

Black. Yellow on clypeus and mandible; palpi more dusky; yellow on humeral bar and tegula; legs mostly rufous; slightly more dusky on tarsi. Sometimes the tip of the scutellum is rufous.

Male: Unknown.

This species may be distinguished by its very elongate abdomen, strongly punctate mesoscutum, rufous legs, and the short first abscissa of cubitus.

Type: ♀, Los Robles, Magallanes, Chile, Jan. 22, 1961, T. Cehalovick (Townes).

Paratype: ♀, Rio Tres Pasos, Magallanes, Chile, Dec. 11, 1960, T. Cehalovick (Townes).

19. Homotropus alternatus, new species

(Figure 31)

Female: 4.8 mm.; head lightly shagreened, obscurely punctate on gena; occipital carina transverse medially; OOC 2.25x HO; frons medially sulcate before fore ocellus; face width 1.7x height, slightly narrowed ventrally, weakly protuberant medially; clypeus separated from face by a weak crease, width 2.1x height, apical lobes rounded with a shallow median emargination, strongly impressed along apical margin, lightly shagreened; malar space 0.5x basal width of mandible; upper tooth of mandible obliquely subtruncate; 19 flagellar segments; sense cones separated by the width of a sense cone, inconspicuous; hairs on flagellum dense, short and erect; thorax polished with sparse fine puncturing; prepectal carina complete; mesosternal suture shallow; pleural carina weak; propodeum polished dorsally, weakly rugulose and shagreened on petiolar area; wing areolet small, square, sessile, second intercubitus unpigmented; nervulus opposite basal vein; nervellus broken slightly below middle; discoidella straight on basal 0.5, then with a weak anterior curvature before

continuing to wing margin; 2 hamuli on costellan fold; legs slender; lightly shagreened and obscurely punctate on coxae and femora; no setae on external face of hind tibia; abdomen progressively narrowed from segment 3 to apex; petiole length 1.5x width, shagreened and finely striate longitudinally, moderately elevated on posterior 0.25; segment 2 slightly longer than wide, finely striate at base and remainder shagreened; progressively more polished to apex of abdomen; epipleura distinct on segment 2 and base of 3; spiracles dorsad of sutures; abdomen nearly glabrous.

Black. Cream-yellow on clypeus, mandible, palpi, humeral bar, tegula, tip of pronotal lobe, and tip of mesepimeron; legs mostly fuscous; cream-yellow on fore and middle coxae except at base, apex of hind coxa, fore and middle trochanters, anteriorly on fore femur and tibia, apices of middle and hind femora, ventrally at base of middle and hind tibiae, and apex of middle tibiae cream-yellow baso-laterally on petiole and on apical margin of segments 2-7, epipleura, and ventral surface.

Male: Unknown.

This species is recognizable by the polished thorax, the color of the legs and abdomen, the transverse occipital carina, and the large OOC/HO ratio.

Type: ♀, Baños, Ecuador, at 1,800 m., July 8, 1938, W. Clarke-McIntyre (Townes).

20. Homotropus furvus, new species

(Figure 32)

Female: 5.0 mm.; head lightly shagreened, obscurely punctate on gena; occipital carina rounded medially; OOC 2.0x HO; face width 1.6x height, slightly narrowed ventrally; clypeus separated from face by a weak crease, width 2.4x height, apical lobes rounded with a shallow median emargination, strongly impressed along apical margin, lightly shagreened; malar space 0.6x basal width of mandible; upper tooth of mandible obliquely subtruncate; 18 flagellar segments; sense cones separated by the width of a sense cone, inconspicuous; hairs on flagellum dense, short and erect; thorax polished with sparse fine puncturing; prepectal carina complete; mesosternal suture shallow; pleural carina weak; propodeum polished; wing areolet square, petiolate, second intercubitus unimpigmented; nervulus opposite basal vein; nervellus broken at middle; discoidella straight on basal 0.7, then weakly curved posteriorly to wing margin; 2 hamuli on costellan fold; legs slender; polished and obscurely punctate on coxae and femora; no setae on external face of hind tibia; abdomen compressed from base of segment 2, rather strongly compressed from segment 3 to apex; petiole length 1.9x width, polished except for few fine striae laterally, moderately elevated on posterior 0.25; segment 2 length 1.7x width, polished, weakly striate at base; remainder of abdomen polished and glabrous; epipleura distinct on segment 2 and basal 0.3 of 3; spiracles dorsad of sutures.

Black. Yellow on clypeus, mandible, palpi, tegula, tip of pronotal lobe, and tip of mesepimeron; legs mostly fuscous; yellow on fore and middle coxae and trochanters, anteriorly on fore femur, apically on middle and hind femora, ventrally on all tibiae at base; yellow on abdominal epipleura and ventral surface.

Male: Unknown.

This species is most closely related to *alternatus*. It differs in the polished propodeum and petiole, the petiolate areolet, the compressed abdomen,

the absence of the humeral bar and apical abdominal bands, the nervellus broken at the middle, the shape of the discoidella, and the more slender petiole.

Type: ♀, Baños, Ecuador, 1,800 m., July 8, 1938, W. Clarke-McIntyre (Townes).

21. Homotropus lissosoma, new species

(Figure 33)

Female: Unknown.

Male: 4.2 mm. (4.8 mm.); head shiny shagreened; occipital carina sharply angulate medially; OOC 1.4x HO; face width 1.5x (1.6x) height, slightly narrowed ventrally; clypeus separated from face by a weak crease, width 2.6x (2.4x) height, apical lobes rounded with a shallow median emargination, strongly impressed along apical margin, polished; malar space 0.7x (0.8x) basal width of mandible; upper tooth of mandible shallowly bidentate; 20 flagellar segments; tyloids on segments 7-14; sense cones separated by slightly more than the width of a cone, inconspicuous; hairs on flagellum short and erect; thorax polished and largely impunctate; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum with strong lateral carina and an arching transverse carina between basal and petiolar areas, shagreened on lateral area, rest polished; wing areolet lacking or partially indicated; nervulus opposite basal vein; nervellus broken well below middle; 3 hamuli on costellan fold; legs slender; polished on coxae and lightly shagreened on femora; no setae on external face of hind tibia; abdomen rounded dorsally, gradually narrowed apically; petiole length 1.4x (1.6x) width, shagreened; segment 2 length subequal to width, striate and weakly shagreened; segment 3 striate on basal 0.3; remainder of abdomen lightly shagreened, progressively more polished apically; epipleura distinct on segment 2 and basal 0.3 of 3; spiracle of 2 dorsad of suture, of 3 posterior to end of suture.

Black. Yellow on face, clypeus, mandible, palpi, small humeral bar, tegula, tip of pronotal lobe, and tip of mesepimeron; yellow on fore and middle coxae and trochanters, second hind trochanter, and ventrally on all tibiae; black on hind coxa and first trochanter, basal 0.6 of hind femur, dorsally and apically on hind tibia; dusky on dorsal stripe on fore and middle femora and tibiae and all tarsi; remainder of legs tawny-rufous; reddish on apical margins of abdominal segments 2, 3, and 4, and a narrow medial stripe on 3 and 4.

This species is recognizable by the polished thorax and propodeum, the transverse propodeal carina between the basal and petiolar areas, the striations on abdominal segment 2, the color of the legs and abdomen, the angulate occipital carina, and the absence of the wing areolet.

Type: ♂, Baños, Ecuador, 2,500 m., May 6, 1939, W. Clarke-McIntyre (Townes).

Paratype: ♂, same data as type (Townes).

22. Homotropus masoni, new species

(Figure 34)

Female: 4.2 mm.; head evenly shagreened, more polished on gena; occipital carina narrowly rounded medially; vertex impressed medially; OOC 1.1x HO; face width 1.95x height, slightly widened ventrally; clypeus separated

from face by a weak crease, width 1.7x height, apical margin truncate, lacking median emargination, surface flattened, lightly shagreened; malar space 1.2x basal width of mandible; upper tooth of mandible weakly concave; 22 flagellar segments; sense cones sparse, separated by more than the width of a cone, segments 10 to apex flattened ventrally, devoid of sense cones, and covered with a very short dense pile; thorax lightly shagreened and nearly impunctate; prepectal carina complete; mesosternal suture shallow; pleural carina very low; propodeum lacking carinae, shagreened; areolet lacking; nervulus far distad of basal vein; basal vein straight; nervellus broken well below middle; 2 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; no setae on external face of hind tibia; abdomen rounded dorsally, compressed at apex; petiole length 1.25x width, evenly shagreened; segment 2 slightly wider than long, thyridium rather deep and wide; abdomen evenly shagreened and nearly glabrous; epipleura distinct on segment 2 and base of 3; spiracle dorsad of suture on tergite 2, posterior to end of suture on 3.

Black. Cream on narrow inner orbital bar, small spot in malar space, clypeus, mandible, palpi, scape and pedicel ventrally; dark brown on flagellum; cream on long recurved humeral bar, tegula, most of scutellum and post-scutellum, proepisternum, prepectus, wide longitudinal stripe on lower mesopleurum, and most of metapleurum; rufous on remainder of thorax and propodeum; legs extensively cream; fuscous on lateral spot on hind coxa, first hind trochanter, narrow apical dorsal stripes on all femora, ventral stripe on middle femur, basal annulus on hind femur, dorsal stripes on fore and middle tibiae, basal and apical bands and dorsal spot on medial white annulus on hind tibia, and all tarsi; abdomen cream ventrally.

Male: Unknown.

This is a highly distinctive species. It is recognizable by the shape of the clypeus, the absence of the areolet, the straight basal vein and distal position of the nervulus, the flattened ventral surface of the distal half of the flagellum, the lack of sense cones, and the color of the legs and thorax.

Type: ♀, Nova Teutonia, 27° 11' S., 52° 23' W., Brazil, at 300-500 m., Jan. 13, 1960, F. Plaumann (Ottawa).

23. Homotropus trachysoma, new species

(Figure 35)

Female: Unknown.

Male: 5.3 mm. (5.0 mm.); head shagreened and obscurely punctate; occipital carina rounded medially; vertex not impressed medially; OOC 1.8x (1.6x) HO; face width 1.8x (1.6x) height, slightly widened ventrally; clypeus separated from face by a weak crease, width 2.3x (2.5x) height, apical lobes rounded with a shallow median emargination, strongly impressed along apical margin, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 (20) flagellar segments; tyloids on flagellar segments 7-14; sense cones separated by more than the width of a cone; thorax heavily shagreened except on speculum, heavily punctate on mesoscutum; prepectal carina complete; mesosternal suture shallow; pleural carina low; propodeum lacking carinae, coarsely shagreened, more polished low on petiolar area; areolet present, square, sessile, second intercubitus unpigmented; nervulus slightly distad of basal vein; nervellus broken at middle; 3 hamuli on

costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; few setae on external face of hind tibia; abdomen rounded dorsally, gradually narrowed at apex; petiole length 1.6x (1.7x) width, coarsely shagreened; segment 2 length subequal to width; abdomen dull shagreened, progressively more polished apically; epipleura distinct on segments 2 and 3; spiracles dorsad of lateral sutures.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, scape ventrally, humeral margins in front of tegula and recurved to posterior 0.2 of mesoscutum where they become wider, lateral margins and apex of scutellum (or entirely), tegula, proepisternum, tip of pronotal lobe, subtegular ridge, prepectus, lower 0.4± of mesopleurum, and mesepimeron; mesosternum rufous or yellow; legs yellow on fore and middle coxae, apically and posteriorly on hind coxa, fore and middle and second hind trochanter, and ventrally at base of hind tibia; fuscous on rest of hind coxa and hind first trochanter; rufous on rest of fore and middle legs and hind femur; dusky at base of hind femur, dorsally and apically on hind tibia, hind tarsus and apically on fore and middle tarsi; abdomen may be yellow at apex of petiole and basally on segments 3, 4, and 5.

This species is recognizable by the coarse shagreening and puncturing of the mesoscutum, the long recurved humeral bars, and the color of the legs.

Type: ♂, Pichinahuel, Cordillera Nahuelbuta, Arauco, Chile, at 1,100-1,400 m., Jan. 1-10, 1959, L. Peña (Ottawa).

Paratypes: 2♂, Peillem-Pilli, Cordillera Nahuelbuta, Arauco, Chile, at 600-800 m., Jan. 19, 1954, L. Peña (Ottawa).

3. Genus SYRPHOCTONUS

(Figure 66)

Syrphoctonus Foerster, 1868. Verh. Naturh. Ver. Preuss. Rheinlande 25: 162. Type: *Bassus biguttatus* Gravenhorst. Designated by Viereck, 1914.

Length 3.7-8.2 mm.; head width 1.20-1.35x height; face width 1.6-2.4x height, shagreened, obscurely punctate or impunctate, widened ventrally; clypeus width 1.7-2.75x height, separated from face by a weak crease, basal margin elevated, apical margin weakly lobed or subtruncate, shallowly emarginate medially, flattened with a median vertical sulcus; 18-25 flagellar segments; antenna subequal to wing length; sense cones usually separated by less than the width of a cone; tyloids lacking; first flagellar segment length 3.8-5.0x greatest diameter; vertex usually not impressed medially; occipital carina rounded or angulate medially; OOC 0.9-1.8x HO; malar space 0.9-1.4x basal width of mandible; female face not marked with yellow inner orbits; thorax length 1.8-2.1x width of mesoscutum, shagreened; notaulus lacking; prepectal carina complete; sternaulus shallow; mesosternal suture shallow; propodeum lacking carinae, shagreened; wing areolet lacking; nervulus distad of basal vein; nervellus broken below middle; 2-3 hamuli on costellan fold; second abscissa of subdiscoideus slightly shorter than first abscissa; hind tibia slightly longer than thorax length; inner spur on hind tibia 0.5-0.67x length of hind basitarsus; hind tibia usually with many setae on lateral surface; abdomen rounded dorsally and tapered apically; caudal margin of each tergum transverse or slightly convex; petiole in dorsal view short rectangular, dorsal carinae lacking; second and third segments wider than long; epipleura distinct on segment 2 and basal 0.5± of 3; spiracles usually dorsad of sutures.

Key to the Neotropic species of SyrphoctonusFemales

(Females of *concavus*, *paulus*, *hidalgoensis*,
and *caccabatus* are unknown.)

1. Abdomen extensively marked with yellow from segment 3 to apex; hind coxa partially blackened 5. flavicauda, new species
Abdomen black; hind coxa rufous. 2
2. Hind tibia white at base, black on remainder of length; clypeus usually black; face width 2.1-2.3x height; stigma black ventrally.
 1. flavolineatus Gravenhorst
 Hind tibia entirely dusky-rufous; clypeus yellow-rufous; face width 1.7-1.9x height; stigma white ventrally.
 2. erythromelas, new species

Males

1. Head strongly concave behind ocelli; OOC 0.9x HO; mesoscutum polished and obscurely shagreened; scutellum yellow on lateral and apical margins 6. concavus, new species
Head not strongly concave behind ocelli; OOC 1.2-1.8x HO; mesoscutum strongly shagreened; scutellum black, or yellow at apex 2
2. Abdomen extensively marked with yellow from segment 2 or 3 to apex; hind femur extensively colored with pale yellow.
 5. flavicauda, new species
 Abdomen black, occasionally spotted or banded with yellow at bases of medial segments; hind femur rufous or black 3
3. Legs entirely black; face marked with black and yellow.
 7. caccabatus, new species
 Legs marked with rufous or yellow; face entirely yellow 4
4. Hind tibia dusky rufous; hind coxa rufous; prepectus and usually most of mesopleurum black; face punctate . . . 2. erythromelas, new species
Hind tibia pale at base and sometimes ventrally, remainder black; hind coxa black and yellow or mostly yellow; prepectus and mesopleurum extensively marked with yellow; face impunctate 5
5. Discoidella lacking; hind femur fuscous at base and apex and rufous medially; humeral bar lacking; size 3.5-3.8 mm. 4. paulus, new species
Discoidella strong; hind femur rufous and yellow; humeral bar usually present; size 5.1-6.5 mm. 6
6. Hind coxa mostly rufous and yellow; lower mesopleurum and mesosternum yellow; face width 2.3-2.4x height; petiole length 1.3-1.4x width.
 1. flavolineatus Gravenhorst
 Hind coxa extensively blackened; a yellow stripe on lower mesopleurum, black on mesosternum; face width 1.9x height; petiole length 1.8x width.
 3. hidalgoensis, new species

1. Syrphoctonus flavolineatus Gravenhorst

(Figure 36)

Bassus flavolineatus Gravenhorst, 1829. Ichneum. Europeae 3: 337. ♀. Type: ♀, Netley, England (lost).

Bassus interruptus Holmgren, 1856. Svenska Vet.-Akad. Handl. (n.s.) 1: 359. ♂. Type: ♂, Sweden (Stockholm).

Bassus bimaculatus Holmgren, 1856. Svenska Vet.-Akad. Handl. (n.s.) 1: 360. ♂. Type: ♂, Sweden (Stockholm).

Bassus agilis Cresson, 1868. Trans. Amer. Ent. Soc. 2: 111. ♂. Type: ♂, Illinois (Philadelphia).

Bassus frontalis Cresson, 1868. Trans. Amer. Ent. Soc. 2: 111. ♀. Type: ♀, Illinois (Philadelphia).

Mesoleius junctus Provancher, 1883. Nat. Canad. 14: 10. "♂"=♀. Type: ♀, Quebec (Quebec).

Female: 3.7-5.7 mm.; head shagreened, obscurely punctate on face and gena; OOC 1.3-1.5x HO; face width 2.1-2.3x height, moderately widened ventrally; clypeus width 1.9-2.5x height, apical lobes weakly rounded with a shallow median emargination, flattened with a median vertical sulcus, shagreened; malar space 0.9-1.1x basal width of mandible; upper tooth of mandible truncate; 21-25 flagellar segments, first segment length 3.5-5.0x width; sense cones separated by the width of a cone, abundant on segment one, conspicuous; flagellum covered with a short dense pile; thorax shagreened, polished posteriorly on mesopleurum, obscurely punctate on mesoscutum, prepectus, low on mesopleurum, and on mesosternum; pleural carina indistinct; propodeum lacking carinae, evenly shagreened; 2-3 hamuli on costellan fold; legs slender; coxae and femora shagreened and obscurely punctate; numerous setae on external face of hind tibia; hind tibia apically compressed; abdomen rounded dorsally, progressively narrowed apically; petiole stout rectangular, length 1.2-1.5x width, margins slightly divergent behind spiracles, shagreened, submedian carinae from base to middle; segment 2 much wider than long, strongly striate basally; rest of abdomen shagreened, more polished apically, weakly striate at base of segment 3; abdomen sparsely pubescent; epipleura distinct on segment 2 and basal 0.7 of 3, inflexed.

Black. Cream-yellow medially on mandible, palpi, median spot on face, humeral bar, tegula, tip of pronotal lobe, spot under fore wing, mesepimeron, tips of scutellum and postscutellum, and capillary lines between wings; wings dusky hyaline; legs largely rufous; paler on fore trochanters; dusky basally on fore coxa, fore and middle tarsi; fuscous on hind tibia, except at base, and hind tarsus; cream at base of hind tibia.

Occasionally the following variations occur: scutellum and postscutellum black; face black; faintly rufous on thoracic pleura; tawny at base of third abdominal segment; rufous tinge along apical margins of median abdominal segments; and humeral bar reduced or lacking.

Male: 5.1-6.5 mm.; OOC 1.3-1.4x HO; face width 2.3-2.4x height, much widened ventrally; clypeus width 2.3x height; malar space 1.1-1.2x basal width of mandible; 21-24, rarely 19, 20, or 25 flagellar segments; tyloids lacking; hairs of flagellum short and inclined dorsally, largely lacking ventrally; sense cones very abundant, closer together than the width of a cone; petiole length 1.3-1.4x width; numerous short hairs scattered over abdomen.

Black. Lemon-yellow on clypeus, mandible, palpi, face, malar space and lower gena, inner orbit, antenna ventrally, humeral bar, tegula, apical spot on scutellum, tip of postscutellum, capillary lines between wings, proepisternum, posterior margin of pronotal lobe, spot under fore wing, mesepimeron, prepectus, mesosternum, and lower 0.5 of mesopleurum; legs paler than in female; lemon-yellow on all coxae and trochanters, fore and middle femora, ventrally on tibiae and tarsi, ventrally on hind femur, basally and ventrally on hind tibia; rufous posteriorly on hind coxa, most of hind femur; dusky dorsally on fore and middle tibiae and tarsi; fuscous on most of hind tibia and all of hind tarsus; cream spots or bands at bases of abdominal segments 3-7, ventrally on median area.

Specimens: ♀, Ambuto, Ecuador, at 2,600 m., Dec., 1956, J. Foerster (Ottawa). ♀, San Pedro Iturbide, 32± km. west of Linares, Mexico, Oct. 26, 1962, H. & M. Townes (Townes).

This species occurs in the Hudsonian, Canadian, Transition, and Upper Austral zones of the Nearctic region, the Neotropic region, as well as in Europe and Asia.

2. Syrphoctonus erythromelas, new species

(Figures 37, 59, and 64)

Female: 4.0 mm. (4.3 mm.); head shagreened, more polished on gena, finely punctate on face, more obscurely on gena; gena not inflated; occipital carina rounded medially; OOC 1.3x (1.6x) HO; face width 1.7x (1.9x) height, parallel margined; clypeus width 1.8x (2.0x) height, apical margin truncate, with a median vertical sulcus, shagreened; malar space 1.0x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 flagellar segments; sense cones abundant, separated by more than the width of a cone; thorax shagreened, more polished around speculum; mesosternal suture shallow; pleural carina well developed; propodeum shagreened; nervulus far distad of basal vein; 2 hamuli on costellan fold; legs stout; coxae and femora shagreened and obscurely punctate; abdomen rounded dorsally, progressively narrowed apically; petiole length 1.2x (1.0x) width, shagreened with some weak longitudinal striations; segment 2 wider than long, shagreened and finely striate; segment 3 shagreened and striate on basal 0.5; rest of abdomen largely polished; epipleura distinct on segment 2 and basal 0.3 of 3; spiracle of segment 2 dorsad of suture, of segment 3 posterior to end of suture.

Black. Cream on mandible and palpi; yellow-rufous on clypeus; rufous on flagellum; pale yellow on tegula, faint humeral bar, tip of pronotal lobe, tip of mesepimeron, stigma ventrally and most veins ventrally; legs largely rufous, more dusky apically on hind tibia and on hind tarsus.

Male: 4.7 mm.; face width 1.8-1.9x height; clypeus width 2.0-2.2x height; malar space 1.0-1.1x basal width of mandible; OOC 1.2-1.3x HO; 21 flagellar segments; sense cones separated by less than the width of a cone; petiole length 1.1-1.3x width.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally; thorax as in female but usually with yellow on the humeral bar, a spot on the mesopleurum before middle coxa, more or less of the prepectus, and the tip of the proepisternum.

This species is recognizable by the rufous hind tibia, the striations on the first 3 abdominal segments, the dark color of the thorax, the punctations on

the face, the pale color ventrally on the stigma, and the abundance of setae on the hind tibia.

Type: ♀, Tolhuaca, Malleco, Chile, Jan. 8-11, 1962, L. Peña (Townes).

Paratypes: 3♂, 1♀, Butamalal, Arauco, Chile, Feb. 12 and 21, 1953, L. Peña (Ottawa). ♂, Bahia Municipiones, Magallanes, Chile, Dec. 10, 1960, L. Peña (Townes). ♀, Caramavida, Arauco, Chile, Dec. 31, 1953, L. Peña (Ottawa). 3♂, 1♀, El Coigo, Curico, Chile, Oct. and Nov., 1959, L. Peña (Ottawa). ♀, Las Cabras, Chile, at 1,100 m., Dec. 10-23, 1954, L. Peña (Ottawa). ♂, ♀, Las Trancas, Nuble, Chile, Jan. 17, 1953, and March 9, 1952, L. Peña (Ottawa). 3♂, 2♀, Pichinahuel, Cordillera Nahuelbuta, Arauco, Chile, at 1,100-1,400 m., Jan. 31, 1954, Feb. 12, 1953, and Dec. 23-31, 1958, L. Peña (Ottawa). ♂, ♀, Tolhuaca, Malleco, Chile, Jan. 8-11, 1962, L. Peña (Townes).

3. Syrphoctonus hidalgoensis, new species

(Figure 38)

Female: Unknown.

Male: 5.2 mm.; head shiny shagreened; gena slightly inflated; occipital carina rounded medially; OOC 1.4x HO; face width 1.9x height, widened ventrally; clypeus width 2.7x height, apical margin truncate, with a median vertical sulcus, shagreened; malar space 1.1x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 flagellar segments; sense cones very abundant, closer together than the width of a cone; hairs on flagellum sparse, short and erect; thorax shiny shagreened; pleural carina low; propodeum evenly shagreened, more polished low on petiolar area; nervulus distad of basal vein; 2 hamuli on costellan fold; coxae and femora weakly shagreened and obscurely punctate; a few weak setae on external face of hind tibia; abdomen evenly shagreened, more polished apically; petiole length 1.8x width; second segment length subequal to width; abdomen sparsely pubescent; epipleura distinct on segment 2 and basal 0.3 of 3; spiracle of 2 dorsad of suture, of 3 posterior to end of suture.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, antenna ventrally, large humeral bar, tegula, tip of pronotal lobe, tip of proepisternum, prepectus, subtegular ridge, mesepimeron, longitudinal stripe on lower mesopleurum; black on hind coxa except for apex; fuscous posteriorly and at apex of hind tibia, hind tarsus, posterior stripe on fore and middle femora and tibiae; hind femur rufous; rest of legs yellow; yellow on 2 small spots at base of segment 3, band at base of segment 4, and ventral surface.

This species is distinctive in its black hind coxa and the yellow stripe on the mesopleurum.

Type: ♂, Hidalgo National Park, State of Mexico, Mexico, at 3,000 m., Oct. 12, 1962, H. & M. Townes (Townes).

4. Syrphoctonus paulus, new species

(Figure 39)

Female: Unknown.

Male: 3.5 mm. (3.8 mm.); head shagreened, more polished and obscurely punctate on gena; gena not inflated; vertex shallowly impressed medially;

occipital carina rounded medially; OOC 1.25x (1.4x) HO; face width 1.6x height, slightly widened ventrally; clypeus width 1.9x height, apical margin truncate, with a weak median vertical sulcus, lightly shagreened; malar space 1.3x (1.1x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 (18) flagellar segments; sense cones very abundant, closer together than the width of a cone; thorax shagreened, more polished on speculum and pronotal lobe; pleural carina low; propodeum evenly shagreened; discoidella lacking; 2 hamuli on costellan fold; coxae and femora weakly shagreened and obscurely punctate; no setae on external face of hind tibia; petiole length 1.5x (1.4x) width, a pair of submedian dorsal carinae arising at base and extending to apex, shagreened with several longitudinal striae laterad of main carinae; segment 2 length slightly greater than width, striate on basal 0.6 with some light shagreen; remainder of abdomen polished; abdominal pubescence sparse; epipleura distinct on segments 2, 3, and basal 0.5 of 4; spiracles dorsad of sutures.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, scape and pedicel and first flagellar segment ventrally, tegula except for posterior fuscous spot, tip of pronotal lobe, tip of proepisternum, subtegular ridge, prepectus, longitudinal stripe on lower mesopleurum, and mesepimeron; mostly yellow on fore and middle legs, more dusky dorsally on middle tibia and tarsus; yellow on hind coxa except for posterior fuscous stripe; or mostly black on specimen from Ecuador; fuscous on hind trochanters, base and apex of hind femur, apex of hind tibia, all of hind tarsus; mostly rufous on rest of hind femur and tibia.

This species is distinctive in the lack of the discoidella, the absence of setae on the external face of the hind tibia, the longitudinal stripe on the male mesopleurum, the lack of the humeral bar, and the color of the hind legs.

Type: ♂, Orizaba, Mexico, at 2,500 ft., Feb. 13, 1954, R. Dreisbach (Townes).

Paratypes: ♂, Ambato, Ecuador, at 2,600 m., Dec., 1956, J. Foerster (Ottawa). ♂, Orizaba, Mexico, at 2,500 ft., Feb. 13, 1954, R. Dreisbach (Townes).

5. Syrphoctonus flavicauda, new species

(Figure 40)

Female: 5.5 mm. (7.3 mm.); head evenly shagreened, mostly impunctate; gena not inflated; vertex very shallowly impressed medially; occipital carina rounded medially; OOC 1.8x (1.6x) HO; face width 2.0x (1.9x) height, widened ventrally; clypeus width 2.1x (2.2x) height, apical margin truncate with a median vertical sulcus, shagreened; malar space 1.1x (0.9x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 22 (23) flagellar segments; sense cones separated by more than the width of a cone, conspicuous; thorax shagreened, more polished on speculum; obscurely punctate on anterior mesoscutum; pleural carina well developed; propodeum evenly shagreened; nervulus far distad of basal vein; nervellus broken well below middle; 3 hamuli on costellan fold; legs stout; coxae and femora shagreened and obscurely punctate; few setae on external face of hind tibia; abdomen shagreened; petiole length 1.6x (1.4x) width, a strong lateral carina from spiracle to apex; segment 2 slightly wider than long, striate medially at base; segment 3 striate medially at base; epipleura distinct on segment 2 and basal 0.6 of segment 3; spiracles dorsad of sutures.

Black. Yellow on median facial spot, clypeus, mandible, palpi, very small humeral bar, tip of scutellum, tegula, tip of pronotal lobe, subtegular ridge, tip of mesepimeron, longitudinal stripe on lower mesopleurum; stigma whitish below, more dusky above; yellow on fore and middle coxae, except fuscous at extreme bases; yellow at apex and angles of hind coxa, trochanters, most of femora and tibiae except for dorsal dusky stripes; tarsi more dusky; black on basal 0.7 of hind coxa; yellow-orange at apex of petiole, more or less of remaining segments; irregular fuscous spotting on segments 2, 3, and 4. One specimen from Punta Arenas has the thorax mostly blackened and the yellow-orange of the abdomen greatly reduced medially on each segment.

Male: 5.0-6.0 mm.; OOC 1.5x HO; 22-23 flagellar segments; sense cones abundant, closer together than the width of a cone; petiole length 1.65-1.85x width.

Black. Cream-yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, antenna ventrally, humeral bar, tegula, scutellum, posterior 0.5± of pronotal lobe, most of proepisternum, subtegular ridge, prepectus, lower 0.5± of mesopleurum, most of mesosternum, mesepimeron, spot on metapleurum; legs cream; dusky stripe on fore and middle femora and all tibiae; dusky on all tarsi; yellow at apex of abdominal segment one, apical 0.5 of segments 2 and 3, and all of remaining segments. One specimen from Los Robles has the yellow of the thorax somewhat reduced, the hind coxa partially blackened, and the yellow on the abdomen reduced to the base and apex of the segments.

This species is recognizable by the extensive yellow markings of the abdomen, the coloring of the legs, the coloring of the thorax, and the rather slender petiole.

Type: ♀, Punta Arenas, Magallanes, Chile, Feb. 22, 1962, T. Cehalovick (Townes).

Paratypes: ♀, Bio-Bio, Salto del Abanico, Chile, Dec. 30, 1950, Ross & Michelbacher (San Francisco). ♂, Los Robles, Magallanes, Chile, Jan. 22, 1961, T. Cehalovick (Townes). ♂, ♀, Pichinahuel, Cordillera Nahuelbuta, Arauco, Chile, Jan. 1-10, 1959; at 1,100-1,400 m., Jan. 31, 1954, L. Peña (Ottawa). ♀, 5 km. northwest of Punta Arenas, Chile, Feb. 26, 1959, J. F. G. Clarke (Washington). ♂, Tolhuaca, Malleco, Chile, Jan. 8-11, 1962, L. Peña (Townes).

6. Syrphoctonus concavus, new species

(Figures 41 and 63)

Female: Unknown.

Male: 3.7 mm.; head evenly shagreened and impunctate on face and frons, more polished and obscurely punctate on gena; vertex abruptly sloping immediately behind ocelli, strongly concave medially; occipital carina rather angulate medially; OOC 0.9x HO; face width 1.6x height, parallel margined; clypeus width 2.75x height, apical margin truncate, median sulcus lacking, shagreened; malar space 0.9x basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 flagellar segments; sense cones separated by more than the width of a cone, inconspicuous; thorax shiny shagreened, very finely on mesoscutum; pleural carina lacking; propodeum evenly shagreened; nervellus distad of basal vein; nervellus broken well below middle; 2 hamuli on costellan fold; legs short and rather stout; coxae and femora shagreened; setae

lacking from external face of hind tibia; abdomen shagreened, more polished apically; petiole length 1.5x width, a strong lateral carina from spiracle to apex; segment 2 slightly wider than long; epipleura distinct on segment 2 and basal 0.3 of segment 3; spiracles dorsad of sutures.

Black. Cream on face, inner orbit, malar space, clypeus, palpi, scape and pedicel ventrally, lateral and apical margins of scutellum, tegula, tip of proepisternum, tip of pronotal lobe, subtegular ridge, tip of mesepimeron, prepectus, longitudinal stripe on lower mesopleurum; cream on fore and middle coxae and trochanters, apically and posteriorly on hind coxa, and second hind trochanter; tawny-rufous on rest of fore and middle legs, apical 0.5 of hind femur, ventrally on basal 0.5 of hind tibia; fuscous on rest of hind coxa, basal 0.5 of hind femur, dorsally and apically on hind tibia, and hind tarsus.

This species is recognizable by the strong concavity on the rear of the head, the nearly polished mesoscutum, the absence of a medial sulcus on the clypeus, the widely spaced sense cones of the antenna, and the color of the hind legs.

Type: ♂, Quincemil, near Marcapta, Peru, at 750 m., Sept. 1962, L. Peña (Townes).

7. Syrphoctonus caccabatus, new species

(Figure 42)

Female: Unknown.

Male: 4.3 mm.; head roughly shagreened, obscurely punctate on gena; gena not inflated; vertex shallowly impressed medially; occipital carina narrowly rounded medially; OOC 1.55x HO; face width 1.7x height, slightly widened ventrally; clypeus width 2.0x height, apical margin weakly lobed with a very shallow median emargination, heavily shagreened; malar space 1.0x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 flagellar segments; sense cones separated by the width of a cone; thorax shagreened, more polished on speculum; pleural carina low; propodeum roughly shagreened; discoidella present; 2 hamuli on costellan fold; coxae and femora shagreened and obscurely punctate; few setae on external face of hind tibia; petiole length 1.2x width, a weak medial depression extending to apex, shagreened, weakly rugulose laterally behind spiracle; segment 2 wider than long, shagreened, weakly striate medially at extreme base; remainder of abdomen shagreened, progressively more polished apically; abdominal pubescence sparse; epipleura distinct on segment 2 and basal 0.3 of 3; spiracles dorsad of sutures.

Black. Yellow on medial facial spot, triangular spot from lower orbit to clypeus and into malar space, lower half of clypeus, and mandible; remainder of head, thorax, abdomen, and legs black except yellow on apex of fore coxa and on fore trochanters.

This species is recognizable by the extensive black coloration of the thorax, abdomen, and legs, and the color pattern of the male face.

Type: ♂, Chulumani, Yungas, Bolivia, at 1,700 m., Dec. 19-20, 1953, L. Peña (Ottawa).

4. Genus PROMETHES

(Figure 67)

Promethes Foerster, 1868. Verh. Naturh. Ver. Preuss. Rheinlande 25:162.Type: *Bassus sulcator* Gravenhorst. Included by Woldstedt, 1877.*Liopsis* Foerster, 1868. Verh. Naturh. Ver. Preuss. Rheinlande 25:162.Type: *Bassus sulcator* Gravenhorst. Designated by Viereck, 1912.*Promethus* Thomson, 1890. Opusc. Ent. 14:1475. Emendation.

Length 4.0-10.2 mm.; head transverse, width 1.2-1.4x height, narrowed on gena; face width 1.4-2.1x height, polished, usually impunctate, a pair of submedian vertical depressions from clypeus to antennal fossae; clypeus width 1.6-2.1x height, separated from face by a shallow depression, elevated at base, flattened to apical margin which is slightly upturned, apical lobes narrowly rounded with a shallow median emargination, polished; 18-25 flagellar segments, antenna subequal to, or shorter than wing length; sense cones usually separated by more than the width of a cone; tyloids present on male antenna, various in number and distribution; length of first flagellar segment 3.7-6.0x greatest diameter; occipital carina rounded medially; vertex shallowly, or not impressed medially; malar space 0.6-1.2x basal width of mandible; face of female black on inner orbit; thorax length 1.6-2.1x width of mesoscutum, polished and variably punctate; notaulus present and deep; prepectal carina complete; sternaulus shallow; mesosternal suture shallow; propodeum strongly carinate; wing areolet lacking; nervulus usually distad of basal vein; 1-4 hamuli on costellan fold; second abscissa of subdiscoideus much shorter than first abscissa; inner spur on hind tibia 0.31-0.44x length of hind basitarsus; hind tibia lacking setae on external face; hairs internally at apex of hind tibia usually flattened and scale-like; abdomen compressed apically, sometimes strongly so; caudal margin of each tergum transverse or slightly convex; petiole in dorsal view slender rectangular, length 1.4-2.2x width, dorsal carinae lacking or weak; segment 2 longer than wide usually; epipleura distinct on segment 2 and more or less of 3; spiracle of segment 2 dorsad of suture, of segment 3 ventrad of suture in epipleurum.

Promethes is most closely related to *Sussaba*. They differ by the following points: *Promethes* has the clypeus weakly rounded on the apical lobes; the notaulus is strongly developed; the spiracle of abdominal segment 2 is dorsad of the lateral suture, and the spiracle of segment 3 is ventrad of the suture.

1. Promethes dolosus, new species

(Figures 43 and 60)

Female: 5.2 mm. (5.9 mm.); head polished, obscurely punctate on gena; occipital carina rounded medially; OOC 0.8x (0.9x) HO; face width 1.6x (1.7x) height, parallel margined; clypeus width 1.8x (1.7x) height, apical lobes rounded with a shallow median emargination, apical margin slightly upturned, polished; malar space 0.9x basal width of mandible; upper tooth of mandible obliquely subtruncate; 23 (22) flagellar segments; thorax polished, deeply and closely punctate on mesoscutum, more obscurely punctate on rest of thorax, except mostly impunctate around speculum; notaulus deep on basal 0.25 of mesoscutum; prepectal carina complete; pleural carina strong; propodeum mostly polished, bearing strong basal, lateral, and petiolar carinae; nervulus

opposite basal vein; nervellus broken at middle; one hamulus on costellan fold; legs slender; coxae and femora polished and obscurely punctate; hairs at apex of hind tibia flattened scale-like; abdomen progressively narrowed from base of segment 3 to apex of abdomen; petiole slender, length 2.1x (1.8x) width, finely striate longitudinally, a weak lateral carina behind spiracle to apex; segment 2 longer than wide, finely striate on basal 0.4; remainder of abdomen polished and almost glabrous; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on facial patch below antennal fossae, clypeus except for dusky spots on lateral lobes, mandible, palpi, tegula, tip of pronotal lobe, subtegular ridge; legs largely rufous, yellow on fore and middle coxae, apical 0.4 of hind coxa, all trochanters; black on basal 0.6 of hind coxa; dusky at base and apex of hind tibia, apical 0.5-0.7 of hind basitarsus, and remaining segments of hind tarsus; paler on medial portion of hind tibia and base of hind basitarsus; rufous on thyridium, apical margin of segment 2, and basal corner of 3. The apical margin of segment 3 and basal corners of 4 may be rufous.

Male: 4.7-6.0 mm.; clypeus width 1.8-2.0x height; 21-23 flagellar segments; tyloids on flagellar segments 7-10; malar space 0.8x basal width of mandible; OOC 0.9-1.0x HO; nervellus broken at or below middle; petiole length 2.1-2.4x width; abdominal segments from segment 5 to apex heavily pubescent; segment 2 striate on basal 0.3-0.7.

Black. Yellow on face, inner orbit, malar space, clypeus, mandible, palpi; thorax and legs as in female; rufous on thyridium and apical margins of abdominal segments 2 and 3; yellow spots at basal corners of segments 3, 4, and 5, or these united as basal bands.

This species is distinguished from the other species of *Promethes* by the heavily punctate mesoscutum, the color of the hind legs, and the abdominal color.

Type: ♀, km. 185.5, Tuxtepec-Oaxaca Rd., Oaxaca, Mexico, at 2,200 m., Oct. 22, 1962, H. & M. Townes (Townes).

Paratypes: 4♂, 1♀, Cerro Pelon, Oaxaca, 128 km. southwest of Tuxtepec, Mexico, at 3,000 m., Oct. 22, 1962, H. & M. Townes (Townes). 31♂, 2♀, km. 185.5, Tuxtepec-Oaxaca Rd., Oaxaca, Mexico, at 2,200 m., Oct. 22, 1962, H. & M. Townes (Townes).

5. Genus SUSSABA

(Figure 68)

Sussaba Cameron, 1909. Jour. Bombay Nat. Hist. Soc. 19:728. Type:
(*Sussaba bicarinata* Cameron) = *pulchella* Holmgren. Monobasic.

Length 3.7-6.7 mm.; head transverse, width 1.15-1.4x height, narrowed on gena; face width 1.5-2.1x height, polished except in *ruida*, a pair of submedian vertical depressions from clypeus to antennal fossae; clypeus width 1.4-2.3x height, usually separated from face by a definite suture, elevated at base, flattened to apical margin which is slightly upturned, apical lobes subtruncate or angulate, medially sulcate, usually polished; 18-24 flagellar segments, subequal to wing length; sense cones usually separated by more than the width of a cone; tyloids present on male antenna, various in number and distribution; length of first flagellar segment 2.8-5.3x greatest diameter; occipital carina rounded medially, but occasionally angulate; malar space 0.7-1.6x basal width of mandible; face of female usually lacking yellow inner orbit;

thorax length 1.75-2.2x width of mesonotum, polished and punctate or shagreened; notaulus lacking or replaced by a rugose line; prepectal carina complete; sternaulus shallow or lacking; mesosternal suture shallow; pleural carina strong; propodeum strongly carinate in most species; wing areolet lacking; nervulus usually opposite, less often distad of, basal vein; nervellus broken below the middle, seldom at the middle; one hamulus on costellan fold; second abscissa of subdiscoideus much shorter than first abscissa; hind tibia usually shorter than thorax length; inner spur of hind tibia 0.31-0.52x length of hind basitarsus; hind tibia lacking setae on external face; hairs internally at apex of hind tibia not flattened scale-like; abdomen rounded dorsally, usually apically compressed in female, sometimes strongly so; caudal margin of each tergum transverse or slightly convex; petiole in dorsal view rectangular, length 1.2-2.5x width, dorsal carinae weak or lacking; abdominal segment 2 usually wider than long, but longer than wide occasionally; epipleura distinct on segment 2 and base of 3; spiracles of abdominal segments 2 and 3 ventrad of lateral sutures, in epipleura.

Sussaba is most closely related to *Promethes*, from which it may be distinguished by the following features: the clypeus is angulate or subtruncate apically; the malar space tends to be relatively wider; the notaulus is lacking; one hamulus occurs on the costellan fold of each wing; and the spiracles of abdominal segments 2 and 3 lie in the epipleura ventrad of the lateral sutures.

Key to the Neotropic species of Sussaba

Females

(Females of *callosa*, *flavopicta*, and *ruida* are unknown.)

1. Abdomen red on most of segments 3 and 4; OOC 1.8-2.0x HO 2
Abdomen black, or black marked with yellow; OOC 1.2-1.8x HO 3
2. Abdominal segments 3 and 4 lacking yellow spots at basal corners; humeral bar small or lacking 2. balteata, new species
Abdominal segments 3 and 4 with yellow spots at basal corners; humeral bar large 9. spilota, new species
3. Abdomen striate on most of segment 2 and on basal 0.3-0.6 of segment 3; petiolar area of propodeum scabrous; mesoscutum coarsely punctate. 4
Abdomen striate on basal 0.5-0.7 of segment 2, smooth on segment 3; petiolar area of propodeum shagreened; mesoscutum finely to obscurely punctate 5
4. Median facial spot small; humeral bar very small or absent; abdominal segment 2 and basal 0.7 of 3 rather deeply striate; abdomen rufous laterally and on apical margins of segments 2, 3, and 4; rufous on hind tibia and hind tarsus; OOC 1.8x HO 6. insculpta, new species
Median facial spot large; humeral bar large; abdominal segment 2 and basal 0.3 of 3 weakly striate; abdomen yellow laterally and apically on segments 3-7; fuscous on hind tibia dorsally and on hind tarsus; OOC 1.30-1.55x HO 7. sulfurea, new species

5. Propodeal carinae rather weak; inner orbit with broad yellow band; mesoscutum finely punctate; hind coxa black at base, yellow at angles and apex 3. rohweri Brues
 Propodeal carinae strong; inner orbit with small yellow dot; mesoscutum almost impunctate; hind coxa almost entirely black.
 4. tertia, new species

Males

(The male of *spilota* is unknown.)

1. Face black with yellow inner orbits and medial spot; coxae largely black.
 2
 Face yellow; coxae mostly yellow, sometimes black at base of hind coxa.
 6
2. Face lightly shagreened; mesoscutum lightly shagreened; abdomen shagreened on segments 1-4; abdomen rufous on apical margins of segments 2, 3, and 4 8. ruida, new species
 Face polished; mesoscutum mostly polished and punctate; abdomen variously sculptured, but not shagreened on segments 1-4; abdomen black, marked with yellow spots in *tertia*, rufous on all of segments 2 and 3 in *balteata* 3
3. Orbital bar wedge-shaped on lower 0.5 of eye; small humeral bar present; hind femur blackened; scape yellow ventrally; mesoscutum sparsely punctate; OOC 1.3-1.4x HO 4. tertia, new species
 Orbital bar L-shaped, filling the malar space; humeral bar lacking; hind femur entirely rufous, or black at base ventrally; scape black or yellow ventrally; mesoscutum abundantly punctate; OOC 1.5-2.0x HO 4
4. Abdomen rufous at apex of segment 2, most of segments 3 and 4.
 2. balteata, new species
 Abdomen black dorsally 5
5. Fore and middle coxae black; OOC 1.75-2.0x HO; petiole length 1.5-1.55x width; clypeus width 1.6x height; tyloids on flagellar segments 6-10.
 5. flavopicta, new species
 Fore and middle coxae black at base and yellow on remainder; OOC 1.5-1.75x HO; petiole length 1.8x width; clypeus width 1.8-1.9x height; tyloids on flagellar segments 6-9, rarely on 10.
 6. insculpta, new species
6. Abdominal segment 3 polished; hind coxa blackened on basal 0.6 except for angles 3. rohweri Brues
 Abdominal segment 3 striate or shagreened on basal 0.3; hind coxa yellow, with black usually only at base (but sometimes mostly black in *sulfurea*).
 7
7. Tyloids on flagellar segments 6-8 or 9; abdomen rufous on apical margins of segments 2-4, and with large basal yellow spots on segments 3-5; OOC 1.0-1.1x HO 1. callosa, new species

Tyloids on flagellar segments 6-10 or 11; abdomen black dorsally, sometimes narrowly margined apically with rufous; OOC 1.4-1.55x HO.

7. sulfurea, new species

1. Sussaba callosa, new species

(Figure 44)

Female: Unknown.

Male: 4.4 mm.; head polished; occipital carina rounded medially; OOC 1.0x (1.1x) HO; face width 1.6x height, parallel margined; clypeus width 1.8x (1.9x) height, apical lobes subtruncate, shallowly emarginate medially, polished; malar space 0.8x (1.0x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 23 (22) flagellar segments; tyloids on flagellar segments 6-8 or 9, with a black crescentic area dorsad of each, when present on 9 then small; thorax polished, finely punctate on mesoscutum, remainder mostly impunctate; propodeum bearing dorsal, lateral, and petiolar carinae, basal areas mostly polished, remainder weakly shagreened; nervulus opposite basal vein; nervellus broken at middle; legs slender; coxae and femora polished and obscurely punctate; abdomen rounded dorsally, gradually narrowed apically; petiole slender, length 1.9x width, weakly shagreened and finely striate; segment 2 slightly longer than wide, striate on basal 0.7; remainder polished and obscurely punctate; pubescence of abdomen short and abundant; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, antenna ventrally, humeral bar, tegula, tip of pronotal lobe, tip of proepisternum, subtegular ridge, mesepimeron, prepectus; pale yellow on all coxae and trochanters except for some fuscous on first hind trochanter; rufous on remainder of legs, more dusky at apex of hind tibia and on hind tarsus; rufous on thyridium, apical margins of segments 2, 3, and 4; yellow at basal corners of segments 3, 4, and 5.

This species is recognizable in the male by the tyloids and black crescents on flagellar segments 6-8 or 9, the yellow coxae, and the color of the abdomen.

Type: ♂, km. 185.5, Tuxtepec-Oaxaca Rd., Oaxaca, Mexico, at 2,200 m., Oct. 22, 1962, H. & M. Townes (Townes).

Paratypes: 3♂, same data as type (Townes).

2. Sussaba balteata, new species

(Figure 45)

Female: 4.2 mm.; head polished; vertex with a median groove; occipital carina transverse medially; OOC 2.0x HO; face width 1.8x height, parallel margined; clypeus width 1.8x height, apical lobes subtruncate with a shallow median emargination, polished; malar space 1.3x basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 flagellar segments; sense cones sparse on segment one; thorax polished, finely punctate on mesoscutum, more obscurely on lower mesopleurum; propodeum bearing strong dorsal, lateral, and petiolar carinae, basal areas lightly shagreened, fine wrinkling on petiolar area; nervulus opposite basal vein; nervellus broken below middle; legs slender; coxae and femora polished and obscurely punctate; abdomen gradually narrowed apically; petiole length 1.4x width, evenly shagreened, a

lateral carina from spiracle to apex; segment 2 slightly wider than long, finely striate on basal 0.8±; lightly shagreened at base of segment 3; remainder of abdomen polished and largely glabrous; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on small facial spot below antennae, scape and pedicel ventrally, mandible, palpi; tawny-rufous ventrally on flagellum; yellow on tegula; wing veins white ventrally; legs mostly rufous; yellow on fore and middle coxae and all trochanters; fuscous on hind coxa and extreme bases of other coxae, partly on first hind trochanter; rufous on thyridium and apical margin of abdominal segment 2, segment 3 except for black basal band, segment 4, epipleura, and ventral surface. The female from Las Cabras has small yellow humeral bars and rufous on abdominal segments 3, 4, 5, and the apex of 2.

Male: 4.2 mm.; OOC 1.5x HO; 21 flagellar segments; tyloids on flagellar segments 6-10 with black crescentic area dorsad of each tyloid, tyloid small on segment 10; sense cones separated by less than the width of a cone; abdomen more pubescent than in female.

Black. Yellow on large medial facial spot, inner orbit extending through malar space, clypeus, mandible, palpi; flagellum rufous ventrally; yellow on tegula; legs as in female; abdomen as in female.

This species is distinctive in the rufous of the abdomen, the pale color ventrally on the wing veins, the reduced punctation of the thorax, the color of the legs, the wide separation of the hind ocellus from the occipital carina, and the sculpturing of the abdomen.

Type: ♀, Dalcahue, Chiloe Island, Chile, Jan. 17-Feb. 14, 1962, L. Peña (Townes).

Paratypes: ♂, Aulen, Chiloe Island, Chile, Feb. 4, 1952, L. Peña (Ottawa). ♀, Las Cabras, Cordillera Chillan, Chile, at 1,500 m., Jan. 6-31, 1963, L. Peña (Townes). ♂, Pudahuel, Chile, Nov. 30, 1921, E. Varas (Cambridge). ♀, Rio Gol-Gol, Osorno, Chile, March 13-19, 1955, L. Peña (Ottawa). ♂, Chile, No. 190, P. Herbst (Cambridge).

3. Sussaba rohweri Brues

(Figure 46)

Promethes rohweri Brues, 1908. Bul. Wisc. Nat. Hist. Soc. 6:51. ♂, ♀.

Lectotype: ♂, Florissant, Colo., June 11, 1907, S. A. Rohwer (Milwaukee Public Museum).

Female: 4.4-5.4 mm.; head polished, obscurely punctate on vertex and gena; OOC 1.2-1.3x HO; face width 1.6-1.8x height, parallel margined; clypeus width 1.6-2.2x height, apical lobes angulate, meeting medially at an angle of 160°, polished, a median vertical sulcus present; malar space 0.9-1.3x basal width of mandible; upper tooth of mandible obliquely subtruncate; 18-19 flagellar segments; thorax polished, obscurely punctate on mesoscutum and mesosternum; pleural carina strong; propodeum bearing weak dorsal, lateral, and petiolar carinae, partially polished, partially shagreened; legs slender; coxae and femora polished and obscurely punctate; abdomen slender, rounded dorsally, progressively narrowed from base of segment 3, compressed from segment 5 to apex; petiole rectangular, length 1.5-1.8x width, margins parallel behind spiracles, finely longitudinally striate, more shagreened laterally; segment 2 longer than wide, longitudinally striate on basal 0.5-0.7, polished

apically; rest of abdomen polished and largely glabrous; epipleura distinct on segment 2 and base of 3, sharply inflexed.

Black. Bright yellow on mandible, palpi, median facial spot, inner orbital bar on middle 0.5 of eye, humeral bar, tegula, tip of pronotal lobe, spot under fore wing, mesepimeron, spots on prepectus; legs black on much of basal 0.7 of hind coxa, extreme bases of other coxae, posterior stripes on fore and middle femora, basally and posteriorly on hind femur, first hind trochanter; yellow on rest of coxae, trochanters, fore femur, ventrally on hind tibia; tawny on rest of fore and middle legs; rufous on hind femur; fuscous dorsally on hind tibia and all of hind tarsus; large yellow spots at basal corners of abdominal segments 3-7, ventrally on intersegmental membranes.

Male: 4.3-5.3 mm.; OOC 1.3-1.4x HO; face width 1.8x height; clypeus width 2.1-2.3x height; 20-22 flagellar segments; tyloids variable on segments 5 or 6 to 9 or 10, with black crescentic areas dorsad of tyloids; hairs on flagellum short and erect ventrally, inclined dorsally; abdomen parallel margined, narrowed apically; petiole length 1.9-2.0x width; pubescence of abdomen more abundant than in female.

Black. Yellow on clypeus, mandible, palpi, face, inner orbit, malar space, scape and pedicel and a few basal flagellar segments ventrally; thorax marked as in female, but with yellow on proepisternum, prepectus; legs marked as in female, but hind femur may be heavily infuscated; yellow basal spots or bands on abdominal segments 3-5, ventrally on intersegmental membranes. Sometimes the humeral bar is recurved and some yellow may be present on the lower mesopleurum.

Specimens: 6♂, 1♀, Desierto de los Leones, Distrito Federal, Mexico, at 2,900 m., Oct. 13, 1962, H. & M. Townes (Townes). 11♂, Hidalgo National Park, State of Mexico, Mexico, Oct. 12, 1962, H. & M. Townes (Townes). ♂, Rio Frio, 55.5 km. west of Mexico City, Mexico, Oct. 24, 1962, H. & M. Townes (Townes).

This species also occurs in the Canadian, Transition, and Upper Austral zones of western North America.

4. Sussaba tertia, new species

(Figure 47)

Female: 4.8 mm.; head polished; occipital carina rounded medially; OOC 1.75x HO; face width 1.6x height, parallel margined; clypeus width 1.6x height, apical lobes subtruncate with a shallow median emargination, polished; malar space 1.1x basal width of mandible; upper tooth of mandible obliquely subtruncate; 20 flagellar segments; sense cones sparse on segment one; thorax polished, shagreened on pronotum, finely punctate on mesoscutum, remainder mostly impunctate; propodeum bearing strong dorsal, lateral, and petiolar carinae, basal area polished, lateral and petiolar areas shagreened; nervulus opposite basal vein; nervellus broken slightly below middle; legs slender; coxae and femora polished and obscurely punctate; abdomen progressively narrowed from base of segment 3, strongly compressed from segment 5 to apex; petiole length 1.6x width, shagreened with some fine striations laterally, a lateral carina from spiracle to apex; segment 2 longer than wide, striate and shagreened on basal 0.7; remainder of abdomen polished and largely glabrous; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on large facial spot below antennae, a small spot on inner orbit, mandible, palpi; flagellum rufous; yellow on humeral bar, tegula, tip of pronotal lobe, tip of mesepimeron; yellow on fore and middle coxae and trochanters, apex of hind coxa, second hind trochanter; black on most of hind coxa, extreme bases of fore and middle coxae; rufous on most of remainder of legs, a dusky stripe ventrally on each femur, dorsally on each tibia, dorsally on hind tarsus; yellow spots at basal corners of segments 3-7.

Male: 4.4-4.6 mm.; face width 1.8x height; clypeus width 1.9x height; malar space 1.2x basal width of mandible; OOC 1.3-1.4x HO; 21 flagellar segments; tyloids on flagellar segments 6-10, with black crescentic area dorsad of each tyloid; sense cones abundant, separated by less than the width of a cone; petiole length 1.5-1.8x width; abdomen more pubescent than in female, gradually tapered apically.

Black. Yellow on median facial spot, inner orbital bar to level of antenna, antenna ventrally, clypeus, mandible, palpi, small humeral bar, tegula, tip of pronotal lobe, tip of mesepimeron; legs as in female, but black more extensive on bases of fore and middle coxae and most of hind femur; yellow at basal corners of abdominal segments 3 and 4.

This species is recognizable by the color of the abdomen, hind coxa, and male face, the shagreening of the propodeum and petiole, and the strong propodeal carinae. It is most closely related to *S. rohweri*.

Type: ♀, El Cuzco, Peru, Feb. 23, 1950, L. Peña (Townes).

Paratypes: 2♂, same data as type (Townes).

5. Sussaba flavopicta, new species

(Figures 48 and 61)

Female: Unknown.

Male: 5.2 mm. (4.5 mm.); head polished, obscurely punctate on gena and medially on face; occipital carina transverse; OOC 2.0x (1.8x) HO; face width 1.9x (1.8x) height, parallel margined; clypeus width 1.6x height, apical lobes subtruncate with a shallow median emargination, with 3 parallel vertical depressions, polished; malar space 1.0x (1.3x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 22 (21) flagellar segments; tyloids on segments 6-10, small on segment 10, with black crescentic area dorsad of each tyloid; sense cones separated by more than the width of a cone; thorax polished, weakly scabrous at notaulus, lightly shagreened on pronotal lobe, closely and deeply punctate on mesoscutum, more obscurely on pronotal lobe and mesopleurum, polished around speculum; propodeum bearing strong dorsal, lateral, and petiolar carinae, shagreened, with some carinulae on petiolar area; nervulus opposite basal vein; nervellus broken below middle; legs slender; coxae and femora polished and obscurely punctate; abdomen rounded dorsally, mostly parallel margined; petiole length 1.5x width, shagreened and finely striate laterally, a strong lateral carina through spiracle to apex; segment 2 as wide as long, striate and lightly shagreened to apex; segment 3 striate and shagreened on basal 0.4; abdominal pubescence sparse; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on inner orbit, extending across malar space, middle of face, clypeus, mandible, palpi, pedicel ventrally; rufous on flagellum ventrally; yellow on minute spot at humeral bar (or absent), and tegula; legs mostly rufous; black on all coxae, first trochanters, and bases of femora ventrally; rest of trochanters yellow; some rufous at apex of abdominal segments 2 and 3.

This species is recognizable by the facial pattern of the male, the black coxae, the punctate mesoscutum, the sculpturing of abdominal segments 1-3, and the color of the abdomen.

Type: ♂, Laguna Amarga, Natales, Magallanes, Chile, Dec. 14-21, 1960, L. Peña (Townes).

Paratypes: 3♂, same data as type (Townes).

6. Sussaba insculpta, new species

(Figures 49 and 62)

Female: 5.9 mm.; head polished and obscurely punctate; occipital carina rounded medially; OOC 1.8x HO; face width 1.9x height, slightly widened ventrally; clypeus width 1.65x height, apical lobes subtruncate with a shallow median emargination, polished; malar space 1.1x basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 flagellar segments; thorax polished, lightly shagreened in groove on pronotum, scabrous low on metapleurum, closely and deeply punctate on mesoscutum and proepisternum, finely punctate on mesosternum and lower mesopleurum; mesosternal suture rather deep; propodeum with strong dorsal, lateral, and petiolar carinae, shagreened on basal and lateral areas, scabrous on petiolar area; nervulus opposite basal vein; nervellus broken below middle; legs slender; coxae and femora polished and obscurely punctate; abdomen progressively narrowed from base of segment 3 to apex of abdomen; petiole length 1.5x width, rounded dorsally, scabrous, a lateral carina from spiracle to apex; segment 2 slightly wider than long, strongly striate to near apical margin; segment 3 deeply striate on basal 0.6; remainder of abdomen polished and largely glabrous; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on small facial spot below antennae, mandible, palpi, pedicel ventrally; tawny-rufous on flagellum and scape ventrally; yellow on minute humeral bar and tegula; legs largely rufous, more tawny on fore and middle coxae, all trochanters; fuscous on hind coxa except for pale apex; dusky dorsally on hind tarsus; rufous on apical margins of abdominal segments 2, 3, and 4, on epipleura, and ventral surface.

Male: 4.6-4.7 mm.; face width 1.7-1.8x height; clypeus width 1.8-1.9x height; malar space 1.2x basal width of mandible; OOC 1.5-1.75x HO; 21-22 flagellar segments; tyloids on flagellar segments 6-9, rarely with small one on 10, with black crescentic areas dorsad of tyloids; petiole length 1.8x width.

Black. Yellow on face except for 2 wide black vertical lines from clypeus to antennal fossae, malar space, clypeus, mandible, scape and pedicel ventrally, and palpi; thorax black; legs as in female; abdomen slightly reddish on apical margins of segments 2, 3, and 4; tawny-rufous on epipleura and ventral surface.

This species is distinguished by the deep striations of abdominal segments 2 and 3, the scabrous nature of the petiolar area of the propodeum and petiole, and the color of the abdomen.

Type: ♀, Curacautin, Malleco, Chile, Dec. 19-21, 1950, L. Peña (Townes).

Paratypes: ♀, Ancud, Chiloe Island, Chile, Jan. 23, 1952, L. Peña (Ottawa). 2♂, 2♀, Aulen, Chiloe Island, Chile, Feb. 4, 1952, L. Peña (Ottawa). 3♂, Rio Gol-Gol, Osorno, Chile, Feb. 8-11, 1957, and March 13-19, 1955, L. Peña (Ottawa).

7. Sussaba sulfurea, new species

(Figure 50)

Female: 5.7 mm. (4.5 mm.); head polished and obscurely punctate; vertex impressed medially; occipital carina transverse medially; OOC 1.3x (1.55x) HO; face width 1.6x height, slightly widened ventrally; clypeus width 2.0x (1.9x) height, apical lobes subtruncate with a shallow median emargination, polished; malar space 1.0x (1.1x) basal width of mandible; upper tooth of mandible obliquely subtruncate; 21 (19-20) flagellar segments; thorax polished, closely and deeply punctate anteriorly on mesoscutum, more obscurely and sparsely over rest of mesoscutum, lower mesopleurum, and mesosternum; propodeum bearing strong dorsal, lateral, and petiolar carinae, basal area weakly punctate and polished, lateral area roughly shagreened, and petiolar area weakly rugulose; nervulus distad of basal vein; nervellus broken below middle; legs slender; coxae and femora polished and obscurely punctate; abdomen progressively tapered from base of segment 3 to apex of abdomen; petiole length 1.55x (1.7x) width, weakly scabrous, a lateral carina from spiracle to apex; segment 2 slightly longer than wide, striate on basal 0.8, the rest polished; segment 3 striate on basal 0.3; remainder of abdomen polished and largely glabrous; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on large medial spot on face, inner orbit, mandible, palpi, scape and pedicel ventrally; tawny-rufous ventrally on flagellum, more fuscous dorsally; yellow on humeral bar, tegula, tip of pronotal lobe, spots on prepectus, subtegular ridge, mesepimeron; legs largely rufous, yellow on fore and middle coxae, laterally and apically on hind coxa, all trochanters, and more or less of fore and middle femora; black basally and medially on hind coxa; dusky dorsally on each tibia, ventrally on fore and middle femora, apex of hind tibia, and all tarsi; stigma and wing veins pale ventrally; rufous on thyridium and apical margin of segment 2; yellow apical bands on segments 3-7, laterally on segments 3-7, epipleura, and ventral surface; yellow at basal corners of segments 3-7. The yellow on the inner orbit may be lacking. The specimens from Caramavida, Chile, are darker, having the hind coxa mostly blackened except on angles and apex, the inner orbits are black, and the abdomen is largely black dorsal to the lateral margins of the terga.

Male: 4.2-4.6 mm.; face width 1.5-1.75x height; malar space 1.1-1.2x basal width of mandible; 21 flagellar segments; tyloids on flagellar segments 6-10 or 11, black crescentic area dorsad of each tyloid, tyloid on segment 11 small when present; petiole length 1.7-1.8x width; abdomen more heavily pubescent than in female.

Black. Yellow on face, inner orbit, malar space, lower gena, clypeus, mandible, palpi, antenna ventrally, humeral bar, tegula, tip of proepisternum, tip of pronotal lobe, subtegular ridge, prepectus, longitudinal stripe on lower mesopleurum, and mesepimeron; legs as in female, but black usually restricted to base of hind coxa; abdomen as in female, but apical rufous bands reduced to margin. The longitudinal stripe on the mesopleurum may be lacking, and the hind coxa may be largely blackened.

This species is recognizable by the sculpturing of the first three abdominal segments, the color of the abdomen and thorax, the yellow inner orbit of the female, and the tyloid arrangement of the male.

Type: ♀, Dalcahue, Chiloe Island, Chile, Jan. 17-Feb. 14, 1962, L. Peña (Townes).

Paratypes: 2♂, 1♀, Butamalal, Arauco, Chile, Jan. 23, 31, 1954, and Feb. 21, 1953, L. Peña (Ottawa). 2♀, Caramavida, Arauco, Chile, Jan. 11,

1954, and Dec. 21, 1953, L. Peña (Ottawa). 3♂, 2♀, same data as type (Townes). ♂, Liucura, Malleco, Chile, Jan. 1-9, 1959, L. Peña (Ottawa). 2♀, Pichinahuel, Cordillera Nahuelbuta, Arauco, Chile, 1,100-1,400 m., Jan. 1-10, 1959, L. Peña (Ottawa); Jan. 20-28, 1959, L. Peña (Townes). ♀, Termas Tolhuaca, Malleco, Chile, Jan. 15-20, 1959, L. Peña (Ottawa).

8. Sussaba ruida, new species

(Figure 51)

Female: Unknown.

Male: 4.7 mm.; head lightly shagreened; vertex impressed medially; occipital carina rounded medially; OOC 1.4x HO; face width 1.8x height, parallel margined; clypeus width 1.8x height, apical lobes subtruncate with a shallow median emargination, polished; malar space 0.9x basal width of mandible; upper tooth of mandible obliquely subtruncate; thorax lightly shagreened anteriorly on mesoscutum, pronotum, and anterior mesopleurum, remainder polished and finely punctate; propodeum bearing strong dorsal, lateral, and petiolar carinae, shagreened; nervulus slightly distad of basal vein; nervellus broken below middle; legs slender; coxae and femora polished and obscurely punctate; petiole length 1.4x width, evenly shagreened; segment 2 slightly longer than wide, evenly shagreened; abdomen shagreened on segments 3 and 4, polished over remainder of segments; epipleura distinct on segment 2 and basal 0.3 of 3.

Black. Yellow on middle of face, inner orbit, malar space, clypeus, mandible, palpi, scape and pedicel ventrally; flagellum rufous ventrally; yellow on tegula; legs mostly rufous; yellow on fore and middle coxae, apex of hind coxa, fore and middle trochanters, and second hind trochanter; fuscous at extreme bases of fore and middle coxae, most of hind coxa, and first hind trochanter; rufous on apical margin of abdominal segment 2, apical halves of 3 and 4.

This species is recognizable by the extensive shagreening of the head, thorax, and abdomen, the rufous color on the abdomen, and the color of the face.

Type: ♂, Chile, P. Herbst (Cambridge).

9. Sussaba spilota, new species

(Figure 52)

Female: 5.3 mm.; head polished, obscurely punctate on gena, frons, and vertex; occipital carina rounded medially; vertex impressed medially; OOC 1.9x HO; face width 1.7x height, slightly widened ventrally; clypeus width 1.9x height, apical lobes subtruncate with a shallow median emargination, polished; malar space 1.3x basal width of mandible; upper tooth of mandible obliquely subtruncate; 19 flagellar segments; mesoscutum polished and heavily punctate; rest of thorax polished and obscurely punctate except on speculum, rugulose low on metapleurum; propodeum with strong dorsal, lateral, and petiolar carinae, shagreened on basal area, rugulose on lateral and petiolar area; nervulus distad of basal vein; nervellus broken below middle, discoidella rather weak; legs slender; coxae and femora polished and obscurely punctate; abdomen stout, narrowed from base of segment 3 to apex; petiole length 1.6x

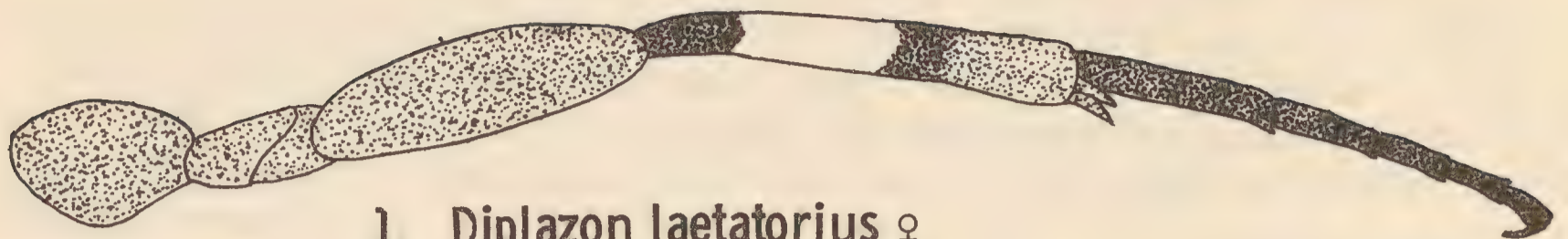
width, rugulose with more distinct striations at apical margin; segment 2 slightly wider than long, shagreened basally and more polished apically, striate medially on basal 0.6; rest of abdomen mostly polished and nearly glabrous; epipleura distinct on segment 2 and base of 3.

Black. Yellow on large facial spot, mandible, and palpi; flagellum rufous; yellow on large humeral bar, tegula, tip of pronotal lobe, subtegular ridge and tip of mesepimeron; yellow on fore and middle coxae and all trochanters; black on flat faces of basal 0.6 of hind coxa; remainder of legs rufous; rufous on apical 0.2 of abdominal segment 2, all of 3 and 4, and epipleura; yellow on large spots at basal corners of segments 3 and 4 and on ventral surface.

Male: Unknown.

This species is recognizable by the color of the abdomen, and the sculpturing of the thorax and abdomen.

Type: ♀, Fco Madero, Argentina, 1952, J. Foerster (Ottawa).



1. *Diplazon laetatorius* ♀



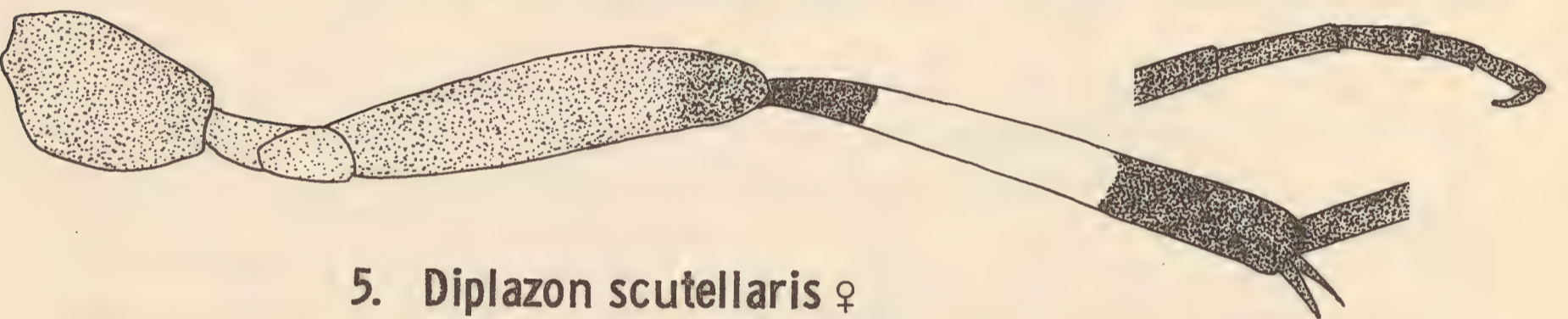
2. *Diplazon orbitalis* ♀



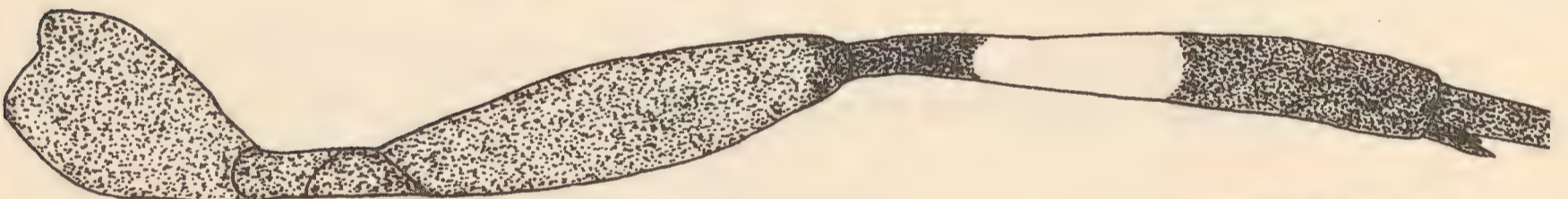
3. *Diplazon triangulus* ♂



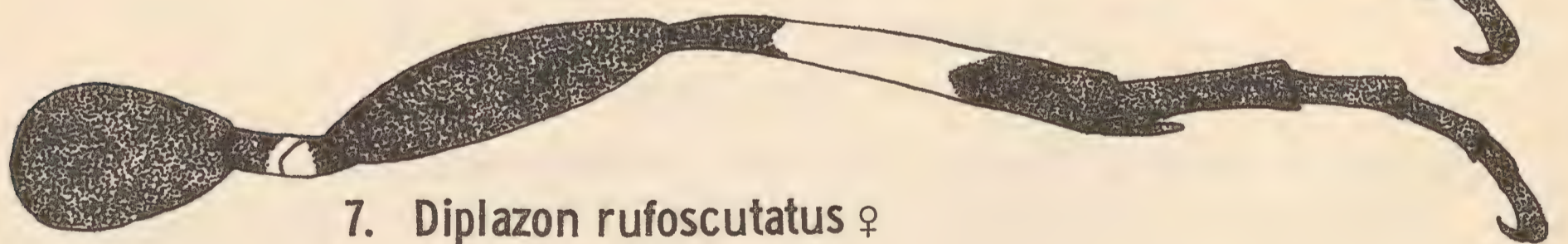
4. *Diplazon erugatus* ♀



5. *Diplazon scutellaris* ♀



6. *Diplazon implanus* ♀

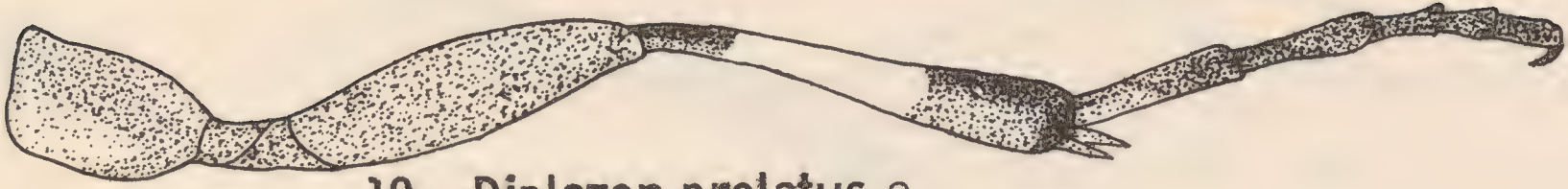
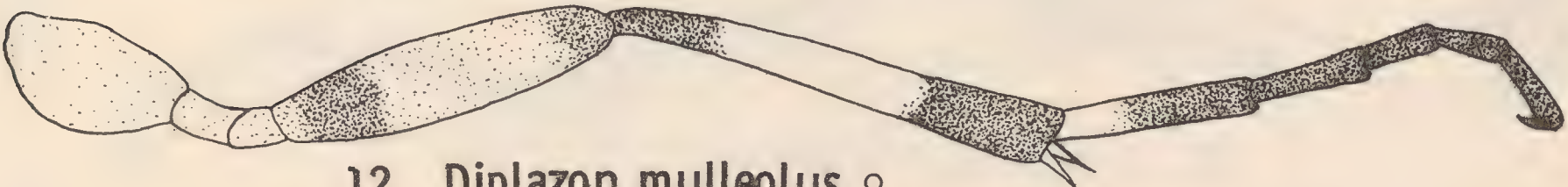
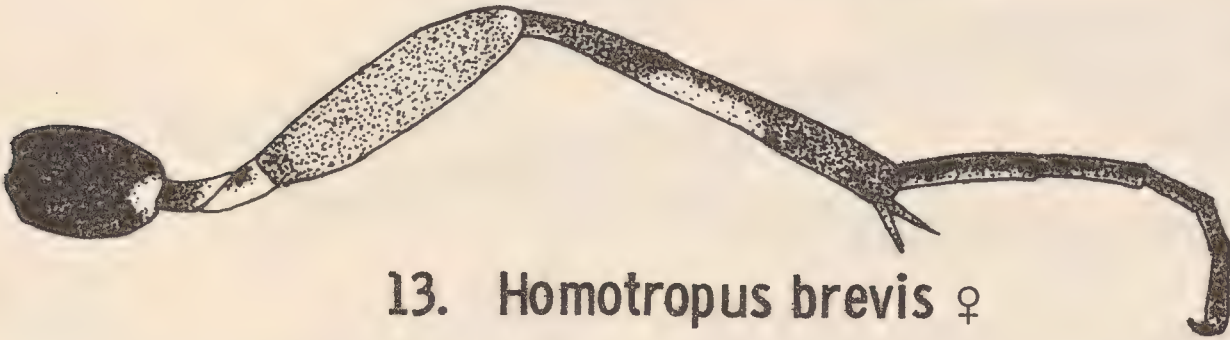
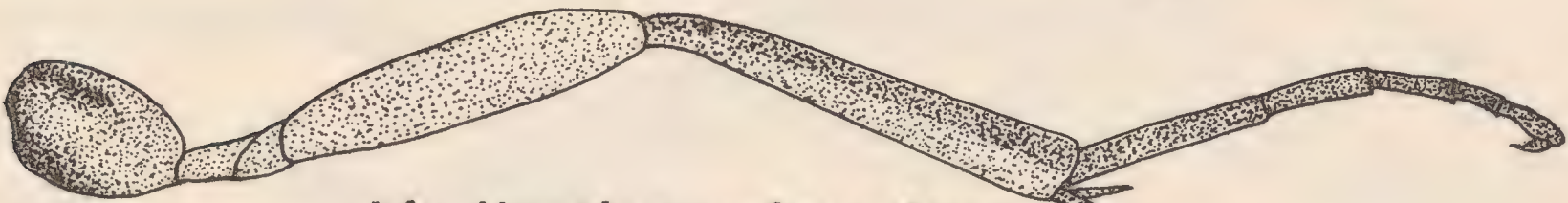
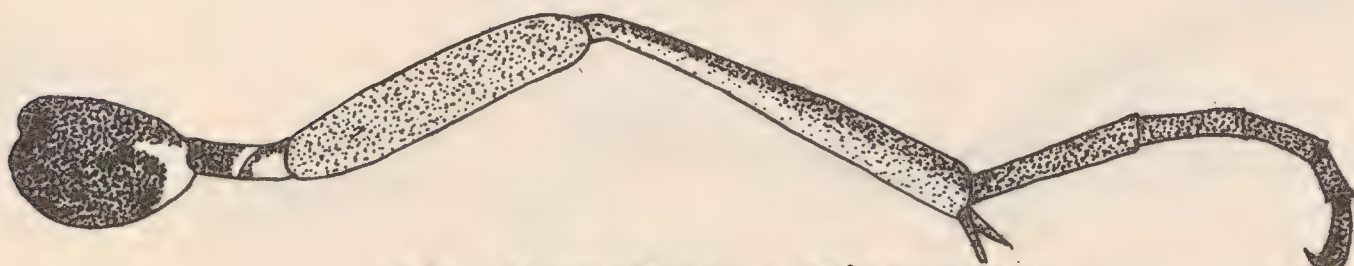


7. *Diplazon rufoscutatus* ♀

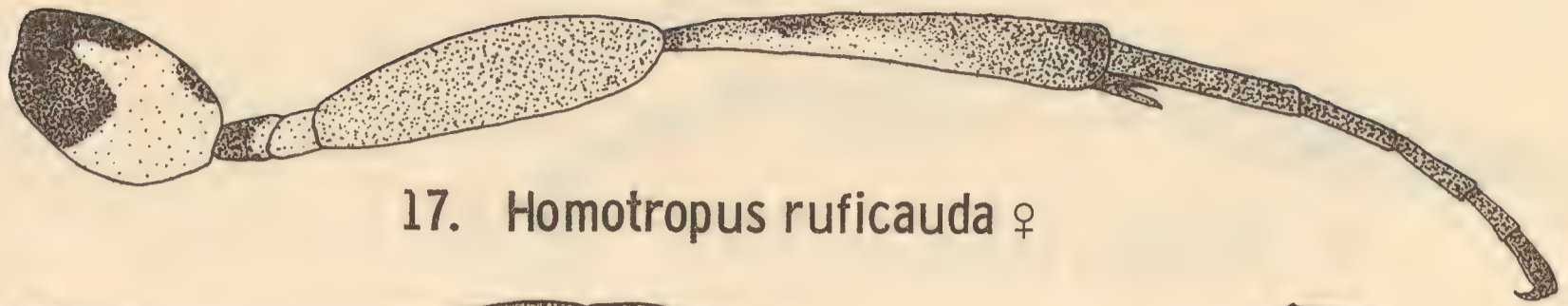
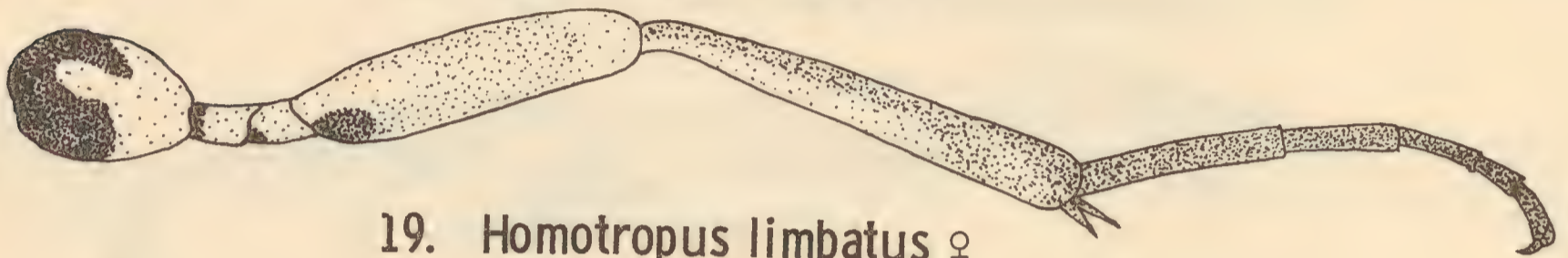
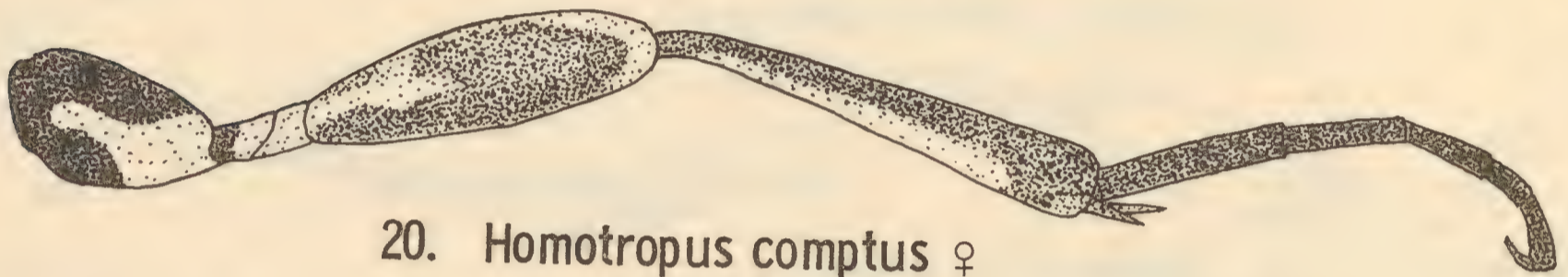
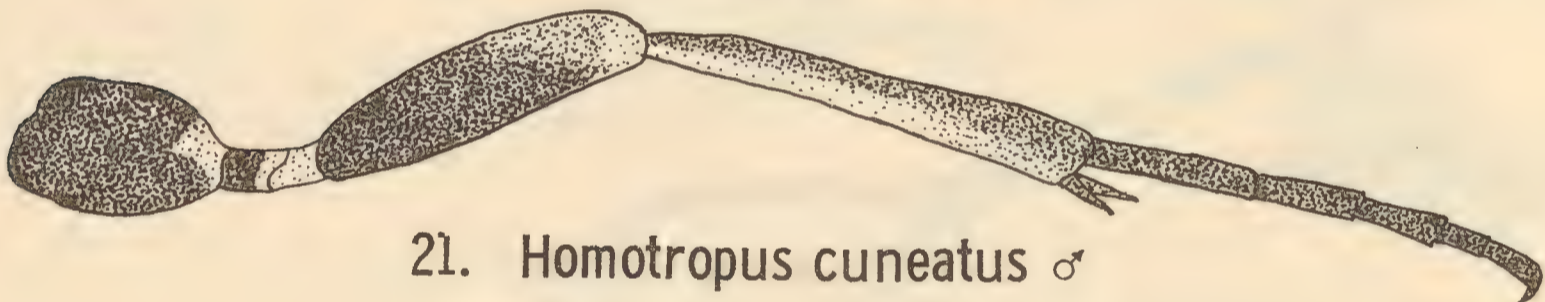
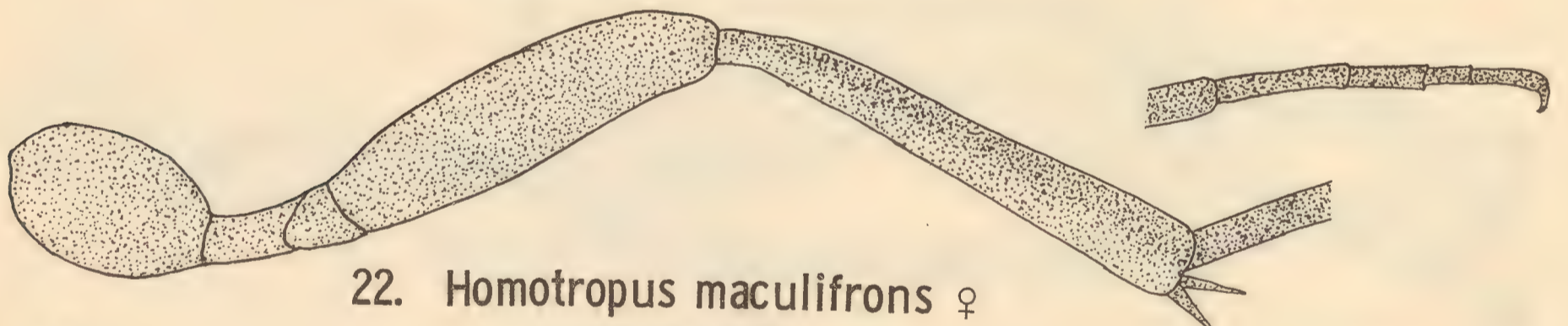


8. *Diplazon pullatus* ♂

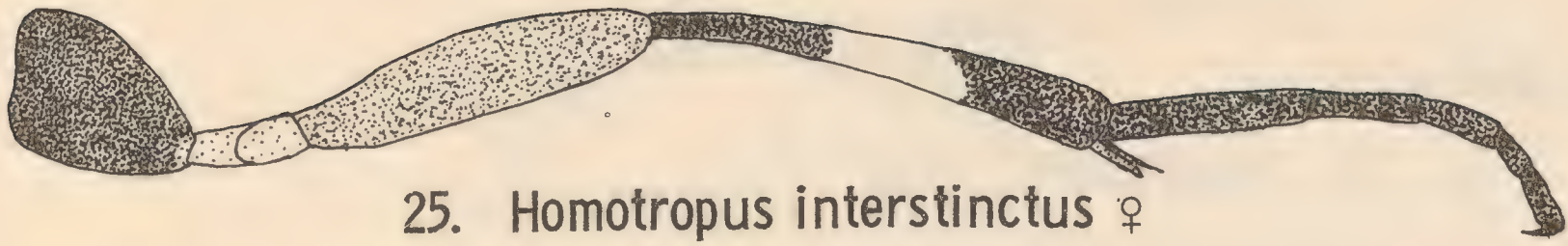
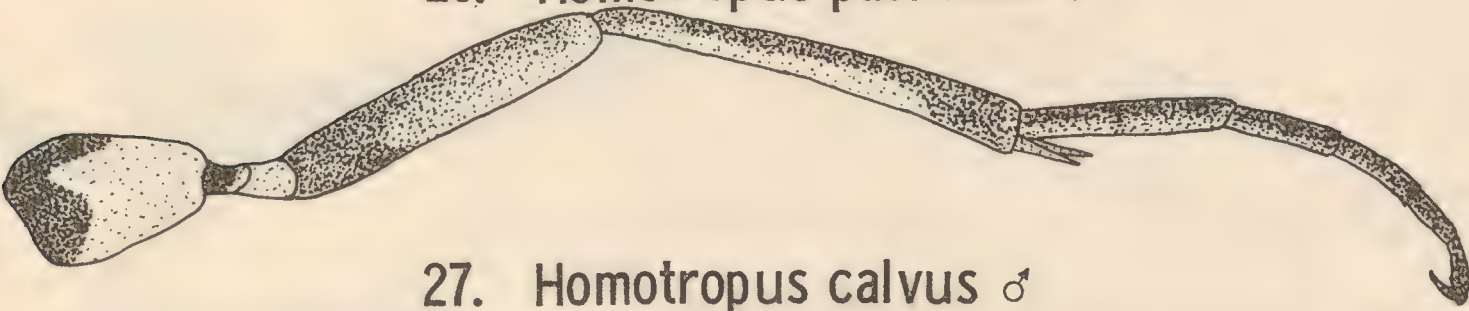
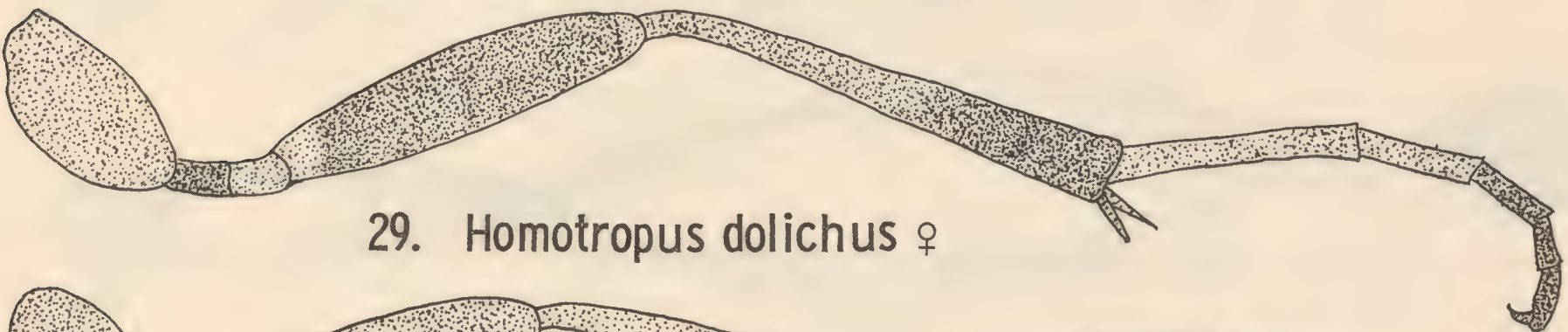
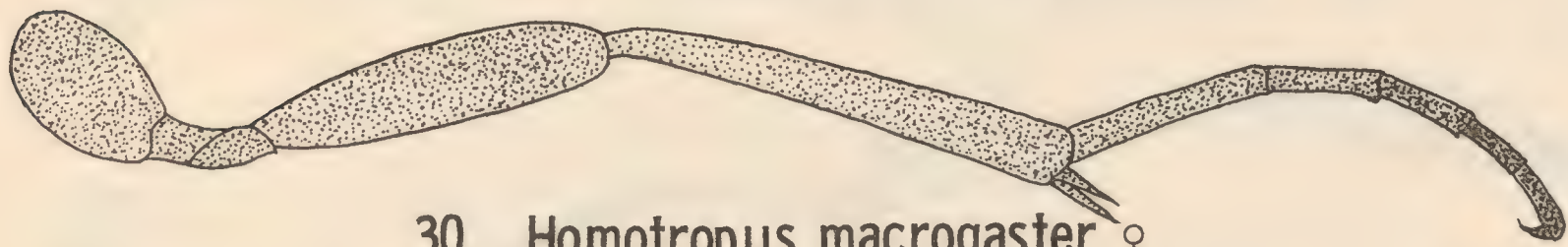
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9. *Diplazon anolcus* ♀10. *Diplazon prolatus* ♀11. *Diplazon pectoratorius* ♀12. *Diplazon mulleolus* ♀13. *Homotropus brevis* ♀14. *Homotropus decoratus* ♀15. *Homotropus nigritarsus fuscitarsus* ♀16. *Homotropus stictonotus* ♀

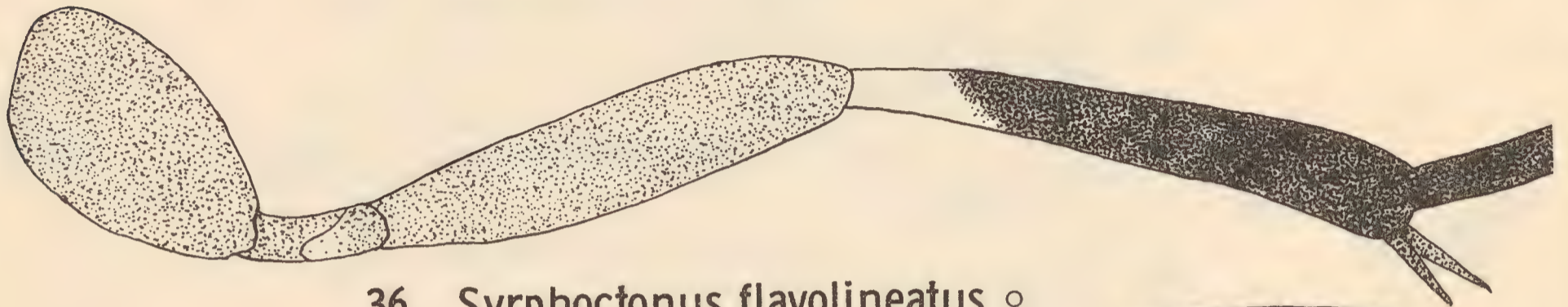
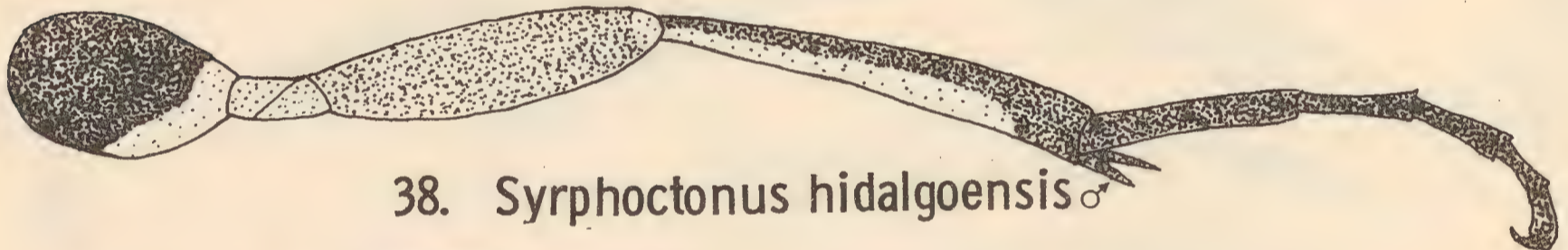
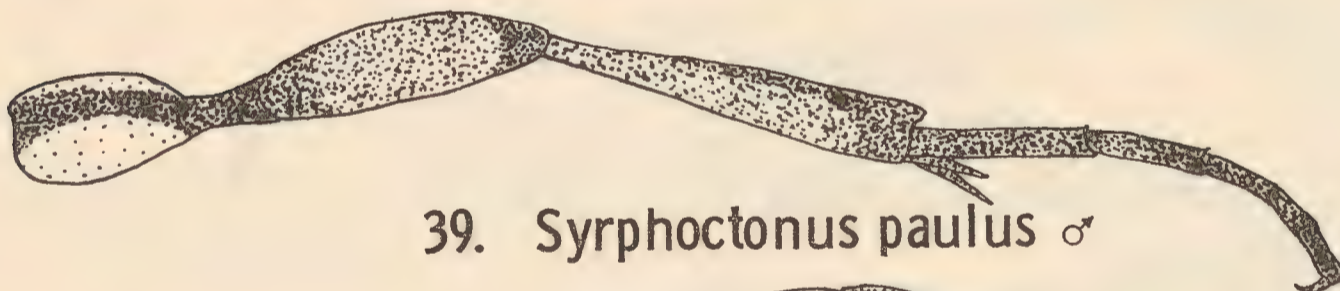
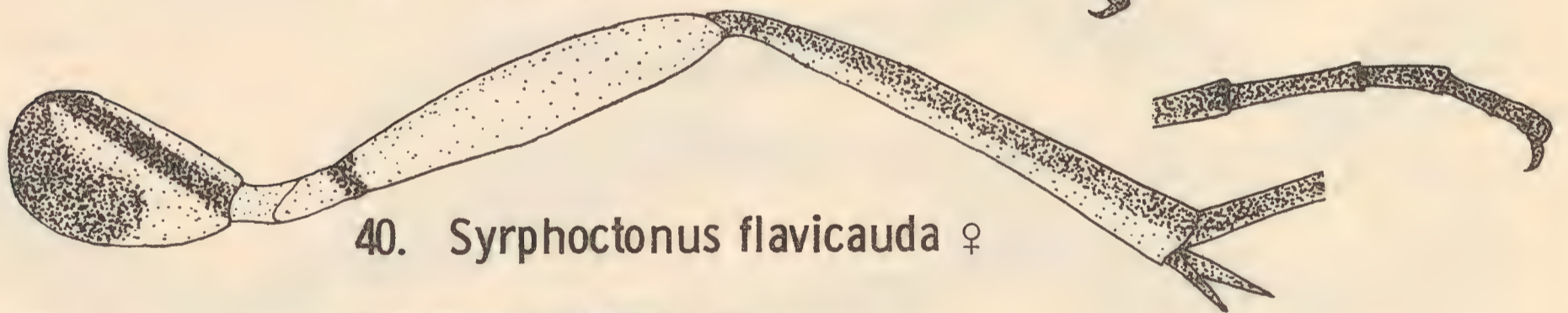
Figures 9-16. Left hind legs.

17. *Homotropus ruficauda* ♀18. *Homotropus flavidus* ♀19. *Homotropus limbatus* ♀20. *Homotropus comptus* ♀21. *Homotropus cuneatus* ♂22. *Homotropus maculifrons* ♀23. *Homotropus preclarus* ♀24. *Homotropus mexicanus* ♀

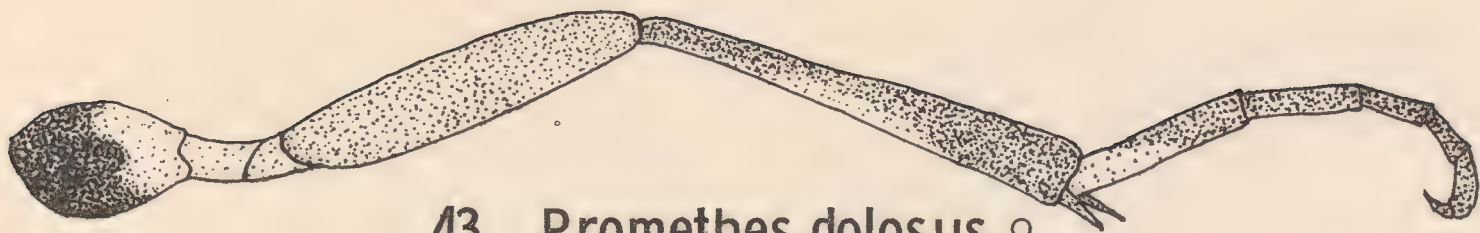
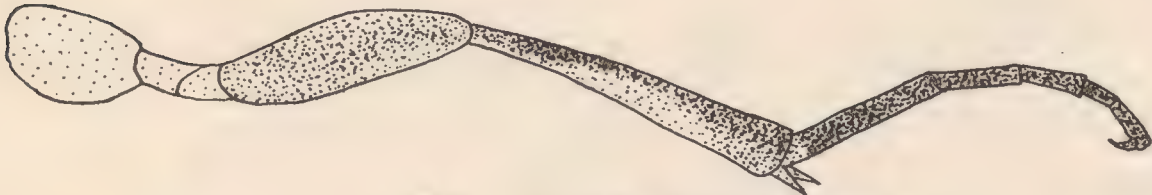
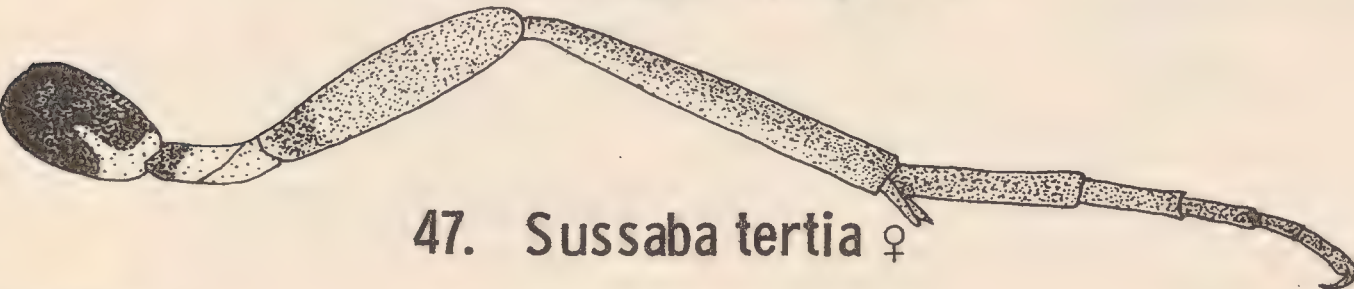
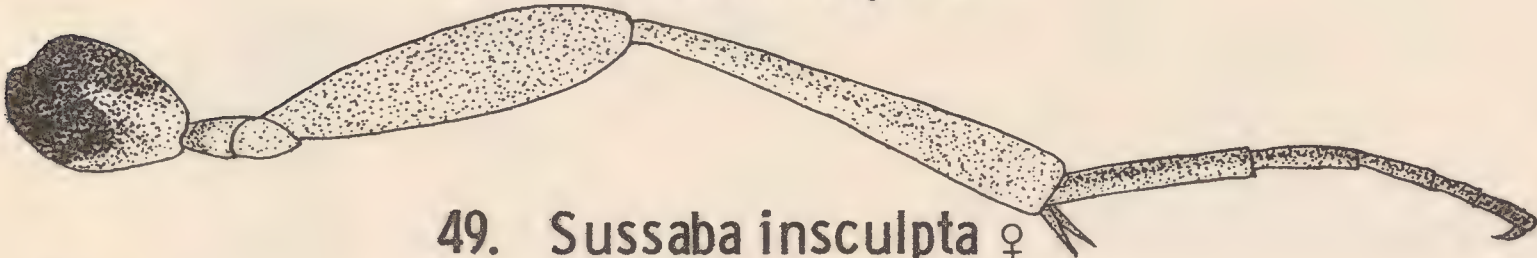
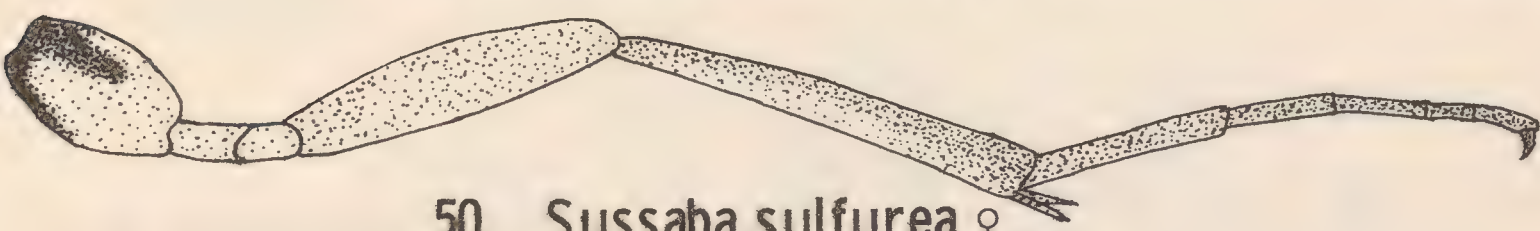
Figures 17-24. Left hind legs.

25. *Homotropus interstinctus* ♀26. *Homotropus pacificus* ♀27. *Homotropus calvus* ♂28. *Homotropus chilensis* ♀29. *Homotropus dolichus* ♀30. *Homotropus macrogaster* ♀31. *Homotropus alternatus* ♀32. *Homotropus furvus* ♀33. *Homotropus lissosoma* ♂

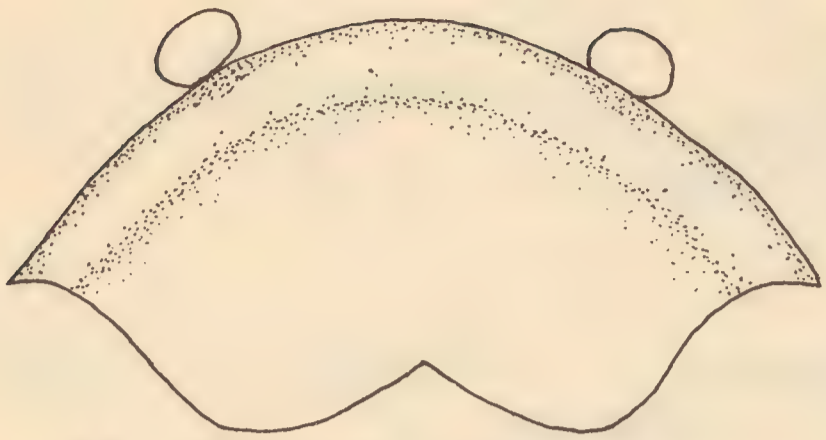
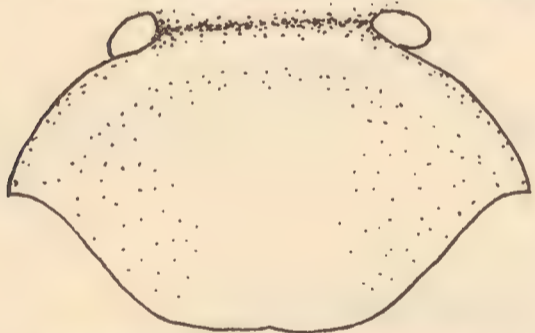
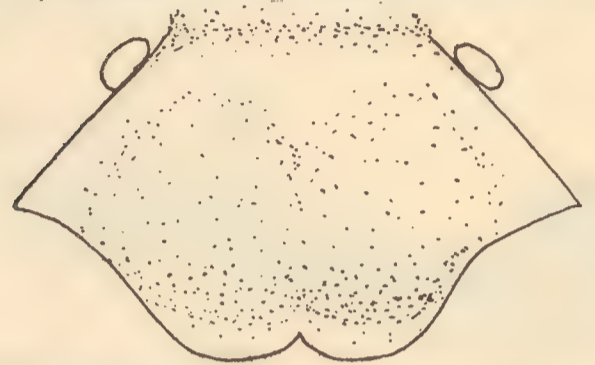
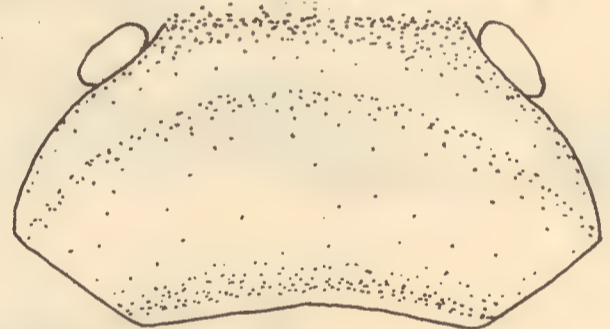
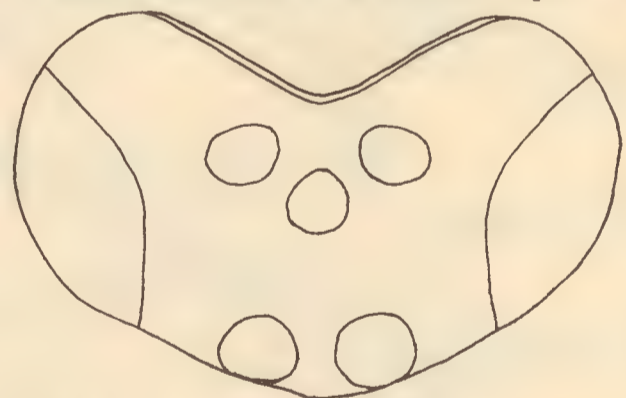
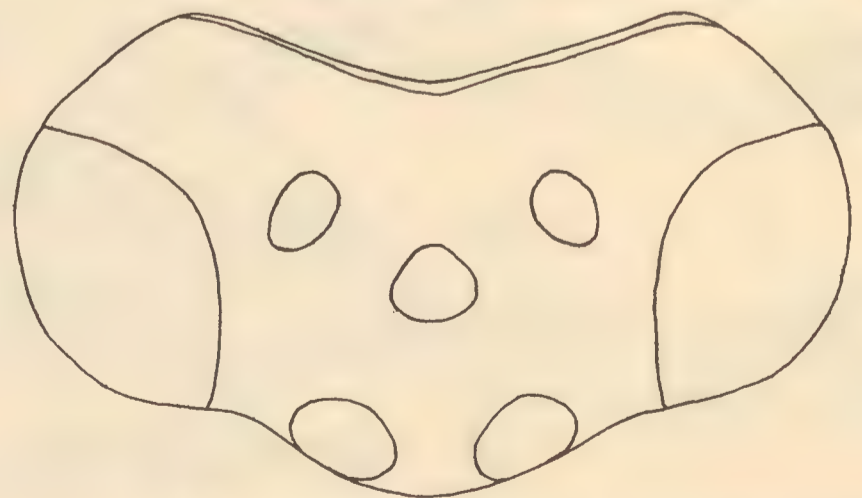
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34. *Homotropus masoni* ♀35. *Homotropus trachysoma* ♂36. *Syrphoctonus flavolineatus* ♀37. *Syrphoctonus erythromelas* ♀38. *Syrphoctonus hidalgoensis* ♂39. *Syrphoctonus paulus* ♂40. *Syrphoctonus flavicauda* ♀41. *Syrphoctonus concavus* ♂42. *Syrphoctonus caccabatus* ♂

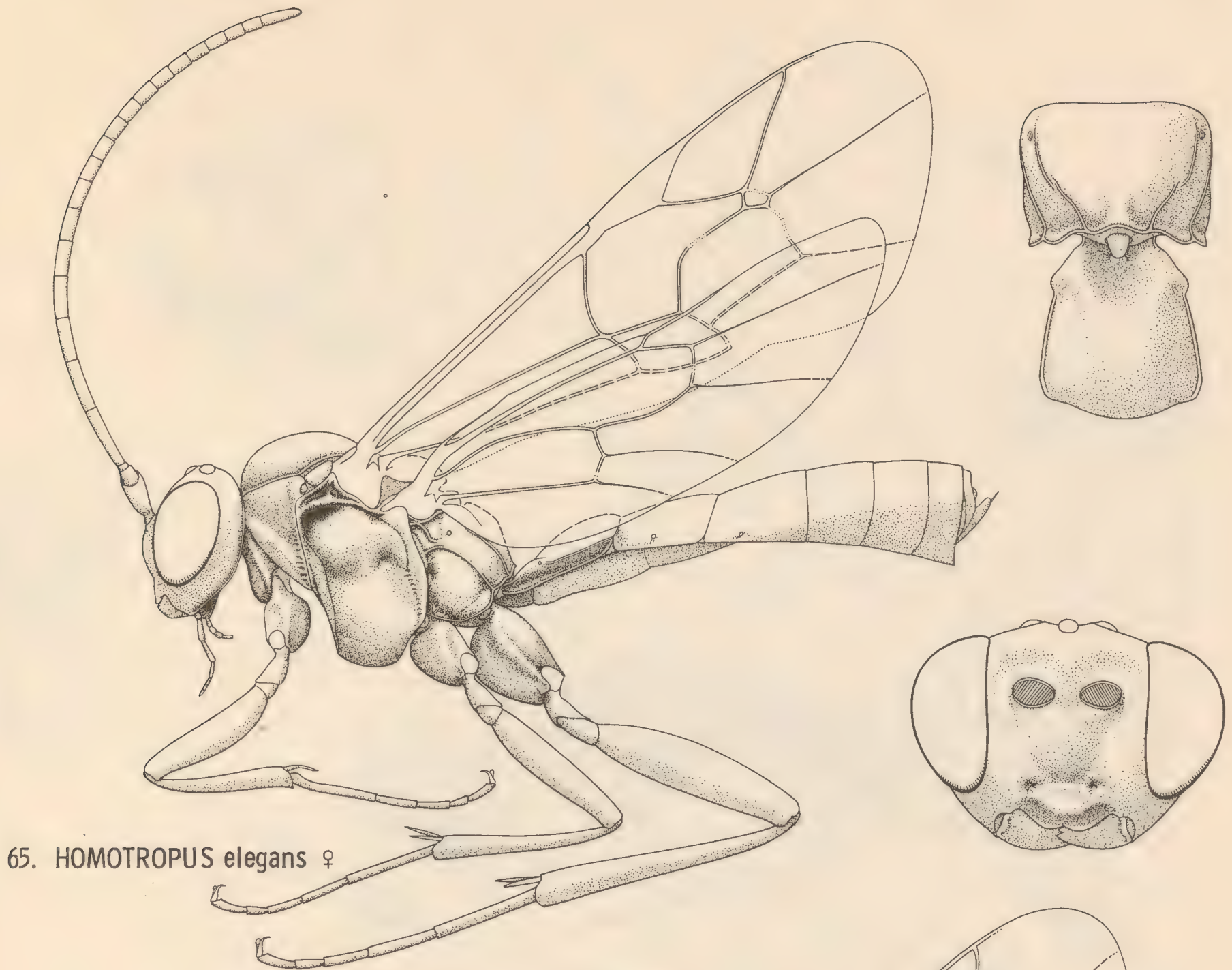
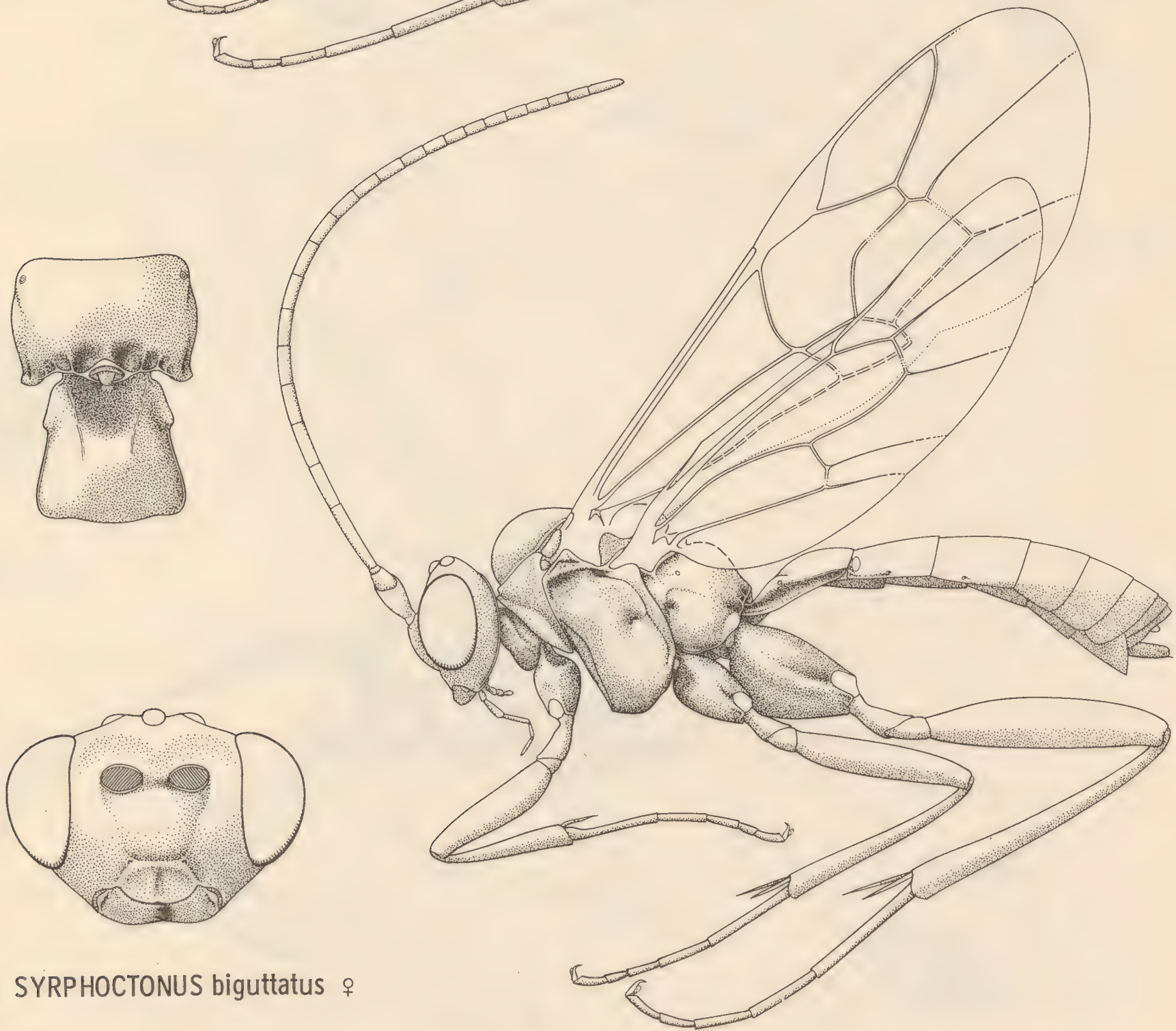
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43. *Promethes dolosus* ♀44. *Sussaba callosa* ♂45. *Sussaba balteata* ♀46. *Sussaba rohweri* ♀47. *Sussaba tertia* ♀48. *Sussaba flavopicta* ♂49. *Sussaba insculpta* ♀50. *Sussaba sulfurea* ♀51. *Sussaba ruida* ♂52. *Sussaba spilota* ♀

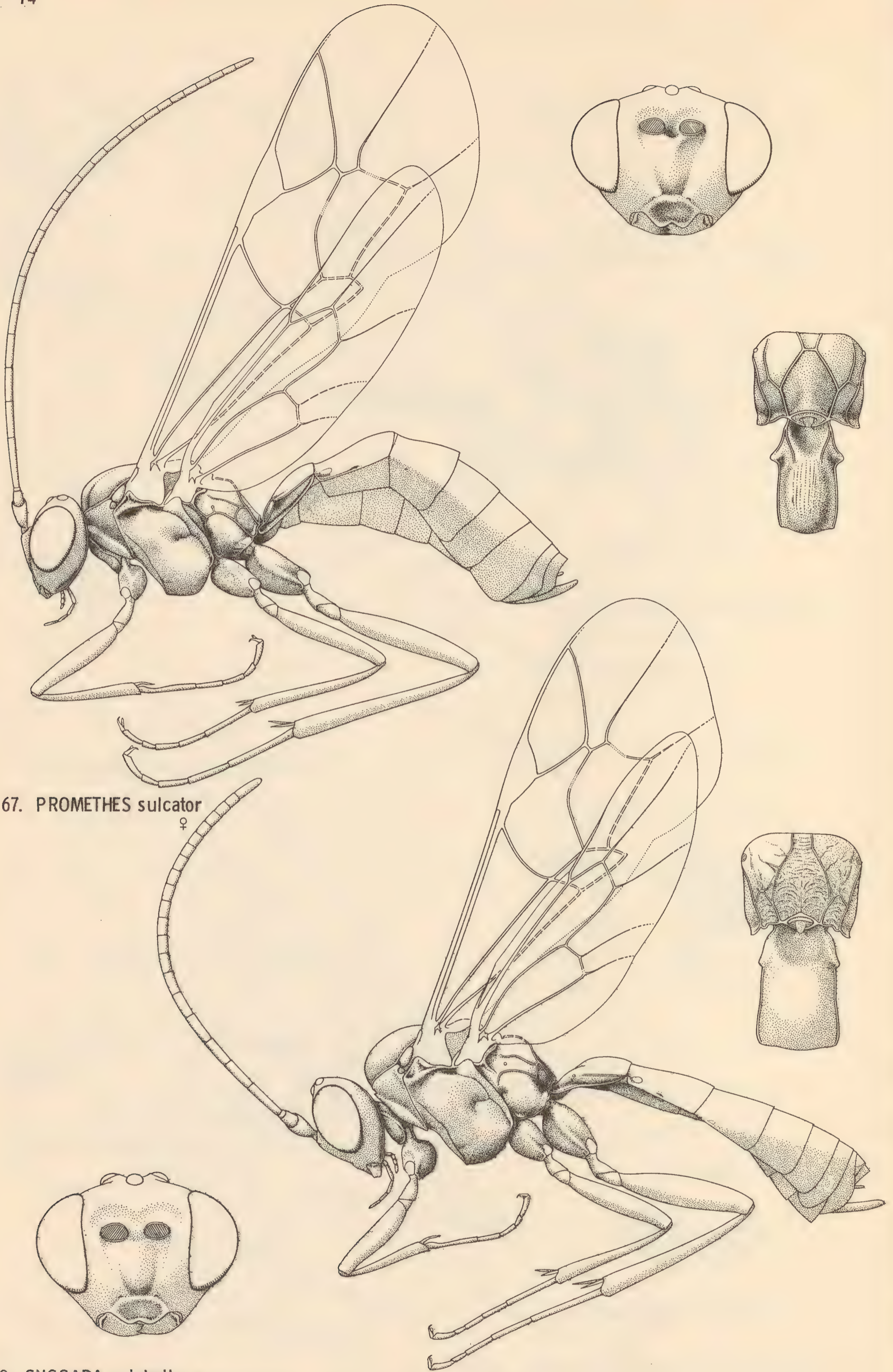
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53. *Diplazon laetatorius* ♀54. *Homotropus comptus* ♀55. *Homotropus cuneatus* ♂56. *Homotropus dolichus* ♀57. *Homotropus mexicanus* ♀58. *Homotropus calvus* ♂59. *Syrphoctonus erythromelas* ♀60. *Promethes dolosus* ♀61. *Sussaba flavopicta* ♂62. *Sussaba insculpta* ♀63. *Syrphoctonus concavus* ♂64. *Syrphoctonus erythromelas* ♀

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65. *HOMOTROPUS elegans* ♀66. *SYRPHOCTONUS biguttatus* ♀

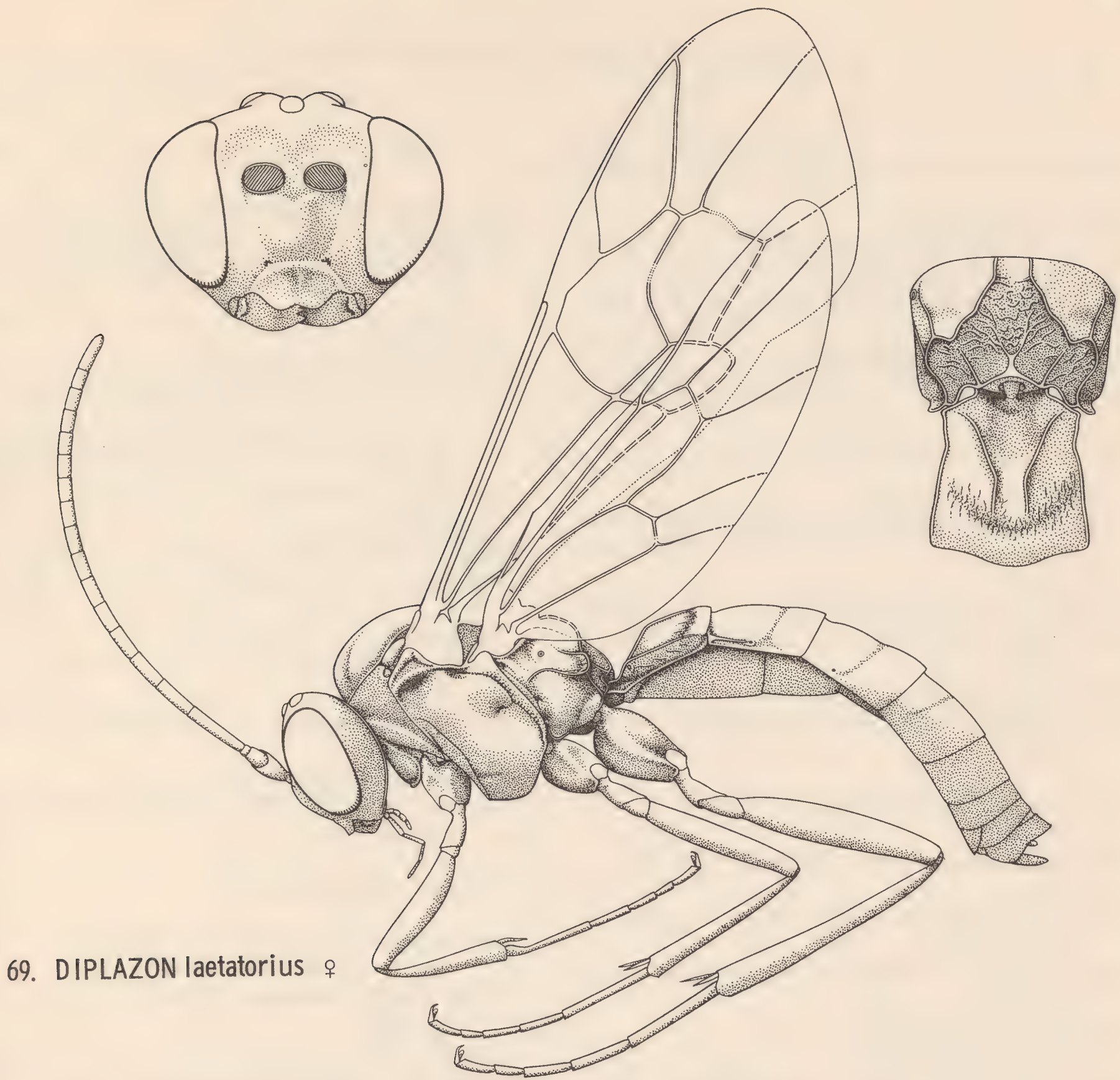
Figures 65-66. Habitus figures of genotypes, showing side view, front view of head, and top view of propodeum and first abdominal segment.



67. *PROMETHES sulcator* ♀

68. *SUSSABA pulchella* ♀

Figures 67-68. Habitus figures of genotypes, showing side view, front view of head, and top view of propodeum and first abdominal segment.



69. *DIPLAZON laetatorius* ♀

Figure 69. Habitus figure of genotype, showing side view, front view of head, and top view of propodeum and first abdominal segment.

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 *akaashii (Homocidus) 17
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